1-1-2019

AROC Impairment Specific Report on Orthopaedic Fractures, Inpatient-Pathway 3, July 2018-June 2019

Tara L. Alexander
University of Wollongong, hurst@uow.edu.au

Frances D. Simmonds
University of Wollongong, francess@uow.edu.au

Jacquelin T. Capell
University of Wollongong, jcapell@uow.edu.au

Lewis J. Green
University of Wollongong, lewis@uow.edu.au

AROC Impairment Specific Report on Orthopaedic Fractures, Inpatient-Pathway 3, July 2018-June 2019

AROC Impairment Specific Report

Orthopaedic Fractures

INPATIENT – PATHWAY 3

July 2018 – June 2019

Anywhere Hospital

Australasian Faculty of Rehabilitation Medicine

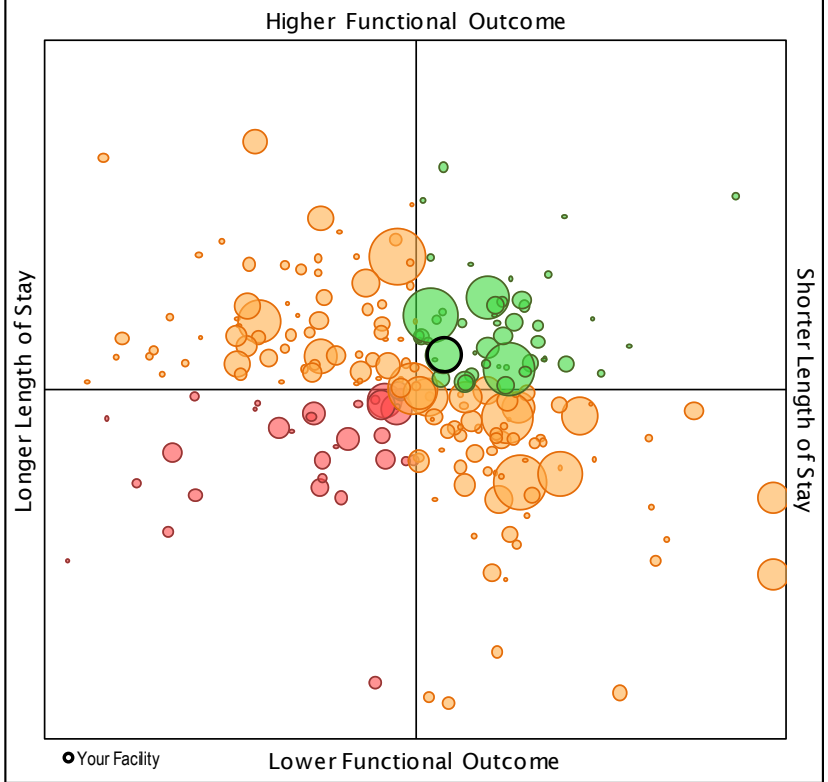
australian health services research institute

UNIVERSITY OF WOLLONGONG AUSTRALIA

Table of contents

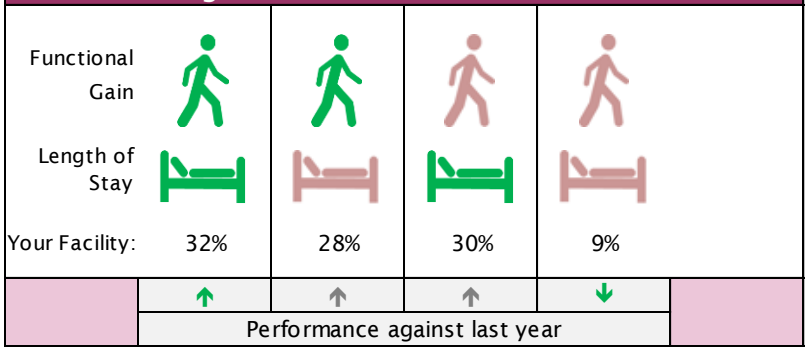
Orthopaedic Fractures Dashboard

Rehabilitation Outcomes by Facility - AUSTRALIA

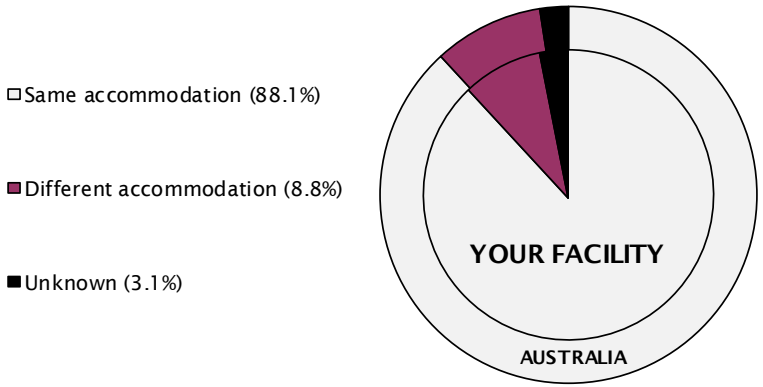


2 outlier facilities are excluded from this graph	Green Status	Trend

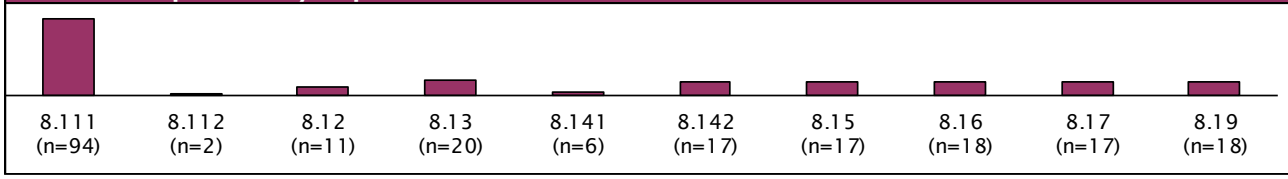
Performance Against Benchmark



Change in Accommodation



Number of Episodes by Impairment



18 Facility Beds (All wards)

220 All Ortho Fracture Episodes (Total)

Orthopaedic Fractures Dashboard

Key Indicators*

YOUR FACILITY		AUSTRALIA	
Average Age:	79.5	Average Age:	78.2
Mortality Rate:	0.5%	Mortality Rate:	0.2%
% with at least one comorbidity:	51%	% with at least one comorbidity:	51%
% with at least one complication:	26%	% with at least one complication:	27%
% episodes with start delays:	13%	% episodes with start delays:	10%
Days between onset and rehab episode:	11.4	Days between onset and rehab episode:	12.3
Days between clinically rehab ready & start date:	0.4	Days between clinically rehab ready & start date:	0.4

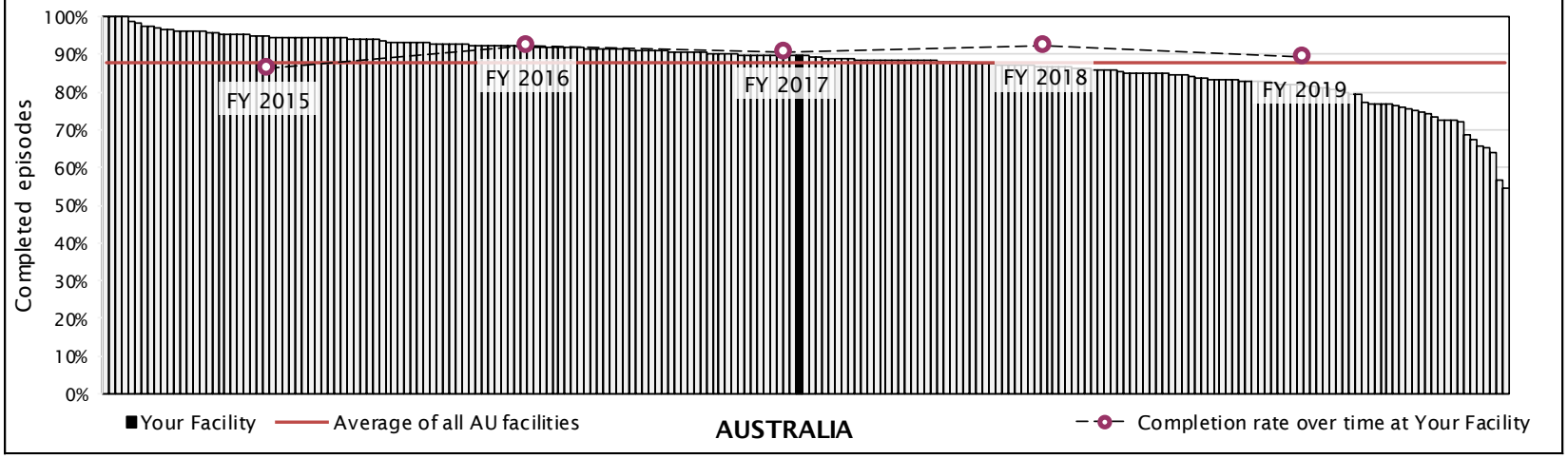
* Mean value provided unless otherwise specified

Facility FIM Training*

FIM Credentialed Staff per 100 Episodes	FIM Credentialed Facility Trainers
11.7 Your Facility	3 Your Facility
6.3 AUSTRALIA (Mean)	2 AROC Suggested Minimum

*This includes all impairments from all wards

Completed Episodes by Facility



Data used in this report

- Orthopaedic fracture episodes discharged during the reporting period (July 2018 – June 2019) and time series data covering five years.
- Benchmark group is AUSTRALIA.
- Casemix analysis uses version 4 AN-SNAP classes (Appendix 3). Casemix adjustment is calculated against AUSTRALIA data.
- Unit of counting is by concatenated* episode, not by patient.
- Where there are less than five episodes within a subgroup, summary data are not provided. Missing data and ungroupable AN-SNAP classes are excluded from figures, but are included in tables.
- Facilities will only receive this report when the facility reports a minimum of 20 completed orthopaedic fracture episodes.

Note: Appendix 1 (Glossary) contains definitions of concepts referred to in this report. An understanding of these will help with interpretation of the data. This report should be considered in conjunction with the Outcome Benchmarks Report for your facility.

*Refer to Appendix 1 for more details about the process of data concatenation.

Orthopaedic fractures impairment codes

Orthopaedic fracture episodes were identified as those with the following AROC impairment codes:

- 8.111 – Fracture of hip, unilateral
- 8.112 – Fracture of hip, bilateral
- 8.12 – Fracture of shaft of femur
- 8.13 – Fracture of pelvis
- 8.141 – Fracture of knee
- 8.142 – Fracture of leg, ankle, foot
- 8.15 – Fracture of upper limb
- 8.16 – Fracture of spine
- 8.17 – Fracture of multiple sites
- 8.19 – Other orthopaedic fracture

NOTE: A list of all impairment codes can be found in Appendix 2.

Orthopaedic fractures AN-SNAP classes

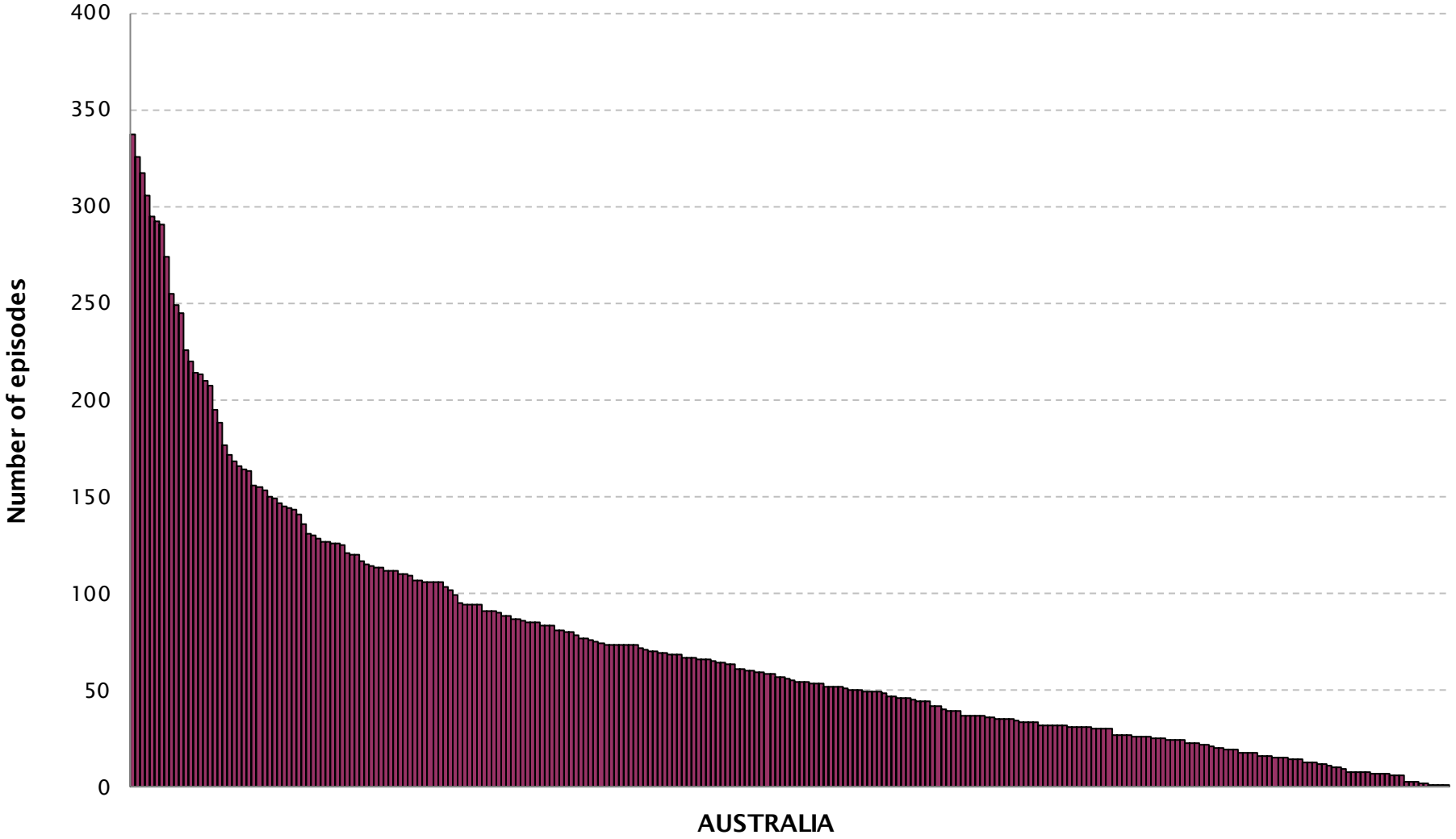
Levels of functioning for orthopaedic fractures are categorised by the following version 4 AN-SNAP classes:

- 4AH1 Orthopaedic fractures, weighted FIM motor 49-91, FIM cognition 33-35
- 4AH2 Orthopaedic fractures, weighted FIM motor 49-91, FIM cognition 5-32
- 4AH3 Orthopaedic fractures, weighted FIM motor 38-48
- 4AH4 Orthopaedic fractures, weighted FIM motor 19-37
- 4AZ3 Weighted FIM motor score 13-18, All other impairments, Age ≥ 65
- 4AZ4 Weighted FIM motor score 13-18, All other impairments, Age ≤ 64

NOTE: A list of all AN SNAP classes can be found in Appendix 3.

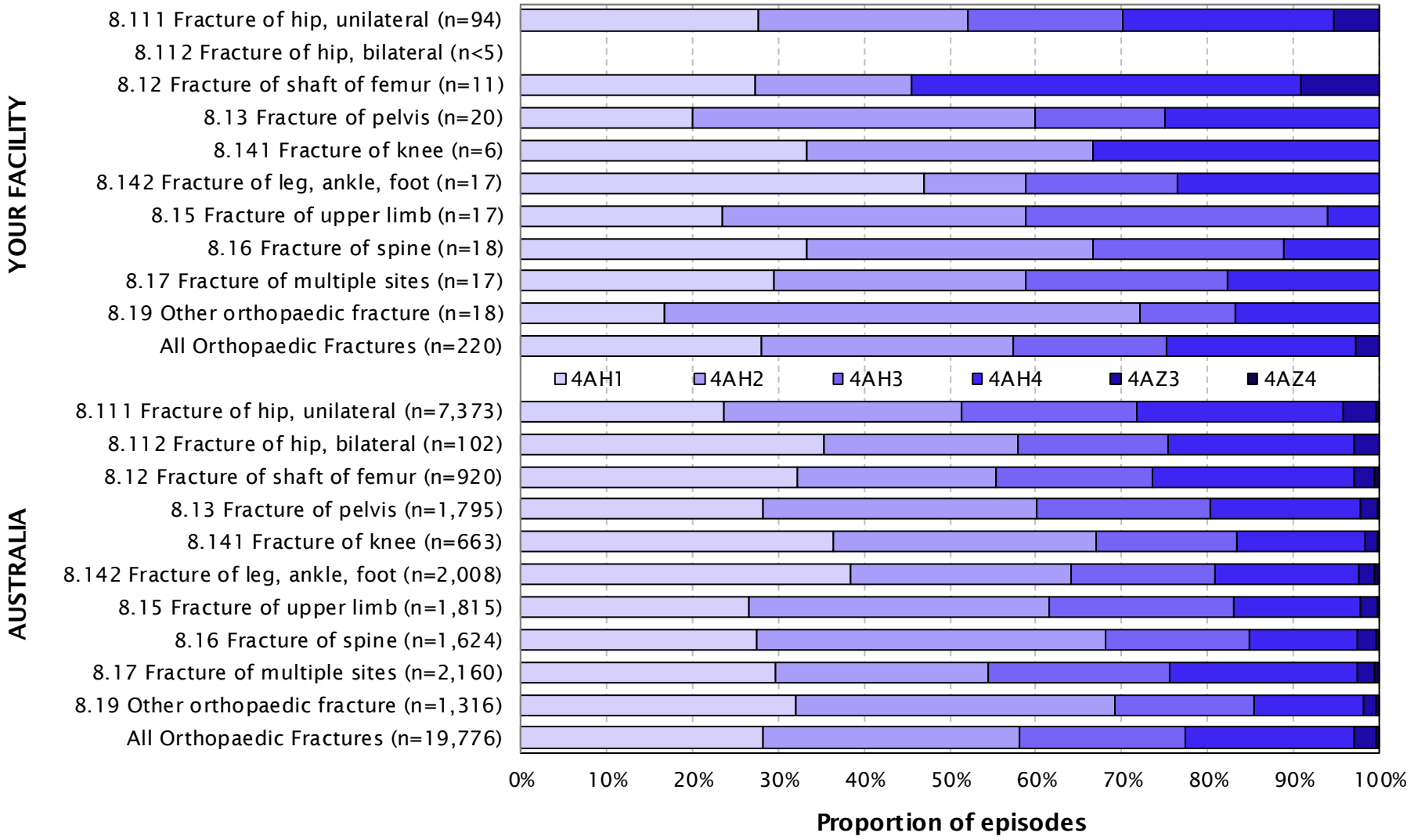
The BIG picture

Volume of episodes by facilities treating orthopaedic fractures



NOTE: 270 facilities reported at least one orthopaedic fracture episode, with 224 facilities reporting between 20 and 337 episodes in this reporting period

Proportion of episodes by impairment code and AN-SNAP class



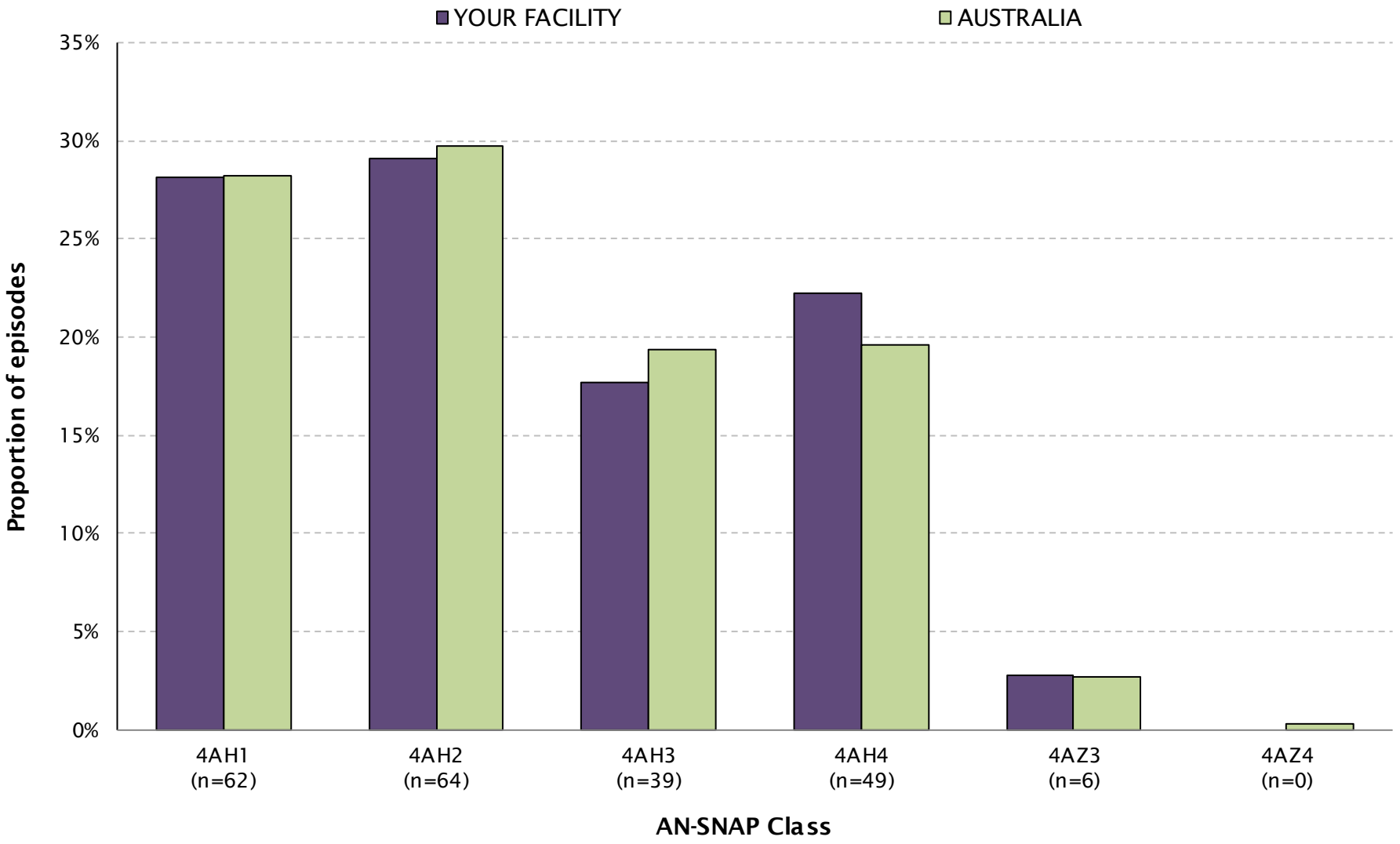
Episodes by impairment code and AN-SNAP class

YOUR FACILITY — N (%)														
Impairment	4AH1		4AH2		4AH3		4AH4		4AZ3		4AZ4		All Orthopaedic Fractures	
8.111 Fracture of hip, unilateral	26	(27.7)	23	(24.5)	17	(18.1)	23	(24.5)	5	(5.3)	0	(0.0)	94	(100.0)
8.112 Fracture of hip, bilateral	1	(50.0)	0	(0.0)	0	(0.0)	1	(50.0)	0	(0.0)	0	(0.0)	2	(100.0)
8.12 Fracture of shaft of femur	3	(27.3)	2	(18.2)	0	(0.0)	5	(45.5)	1	(9.1)	0	(0.0)	11	(100.0)
8.13 Fracture of pelvis	4	(20.0)	8	(40.0)	3	(15.0)	5	(25.0)	0	(0.0)	0	(0.0)	20	(100.0)
8.141 Fracture of knee	2	(33.3)	2	(33.3)	0	(0.0)	2	(33.3)	0	(0.0)	0	(0.0)	6	(100.0)
8.142 Fracture of leg, ankle, foot	8	(47.1)	2	(11.8)	3	(17.6)	4	(23.5)	0	(0.0)	0	(0.0)	17	(100.0)
8.15 Fracture of upper limb	4	(23.5)	6	(35.3)	6	(35.3)	1	(5.9)	0	(0.0)	0	(0.0)	17	(100.0)
8.16 Fracture of spine	6	(33.3)	6	(33.3)	4	(22.2)	2	(11.1)	0	(0.0)	0	(0.0)	18	(100.0)
8.17 Fracture of multiple sites	5	(29.4)	5	(29.4)	4	(23.5)	3	(17.6)	0	(0.0)	0	(0.0)	17	(100.0)
8.19 Other orthopaedic fracture	3	(16.7)	10	(55.6)	2	(11.1)	3	(16.7)	0	(0.0)	0	(0.0)	18	(100.0)
All Orthopaedic Fractures	**62**	**(28.2)**	**64**	**(29.1)**	**39**	**(17.7)**	**49**	**(22.3)**	**6**	**(2.7)**	**0**	**(0.0)**	**220**	**(100.0)**

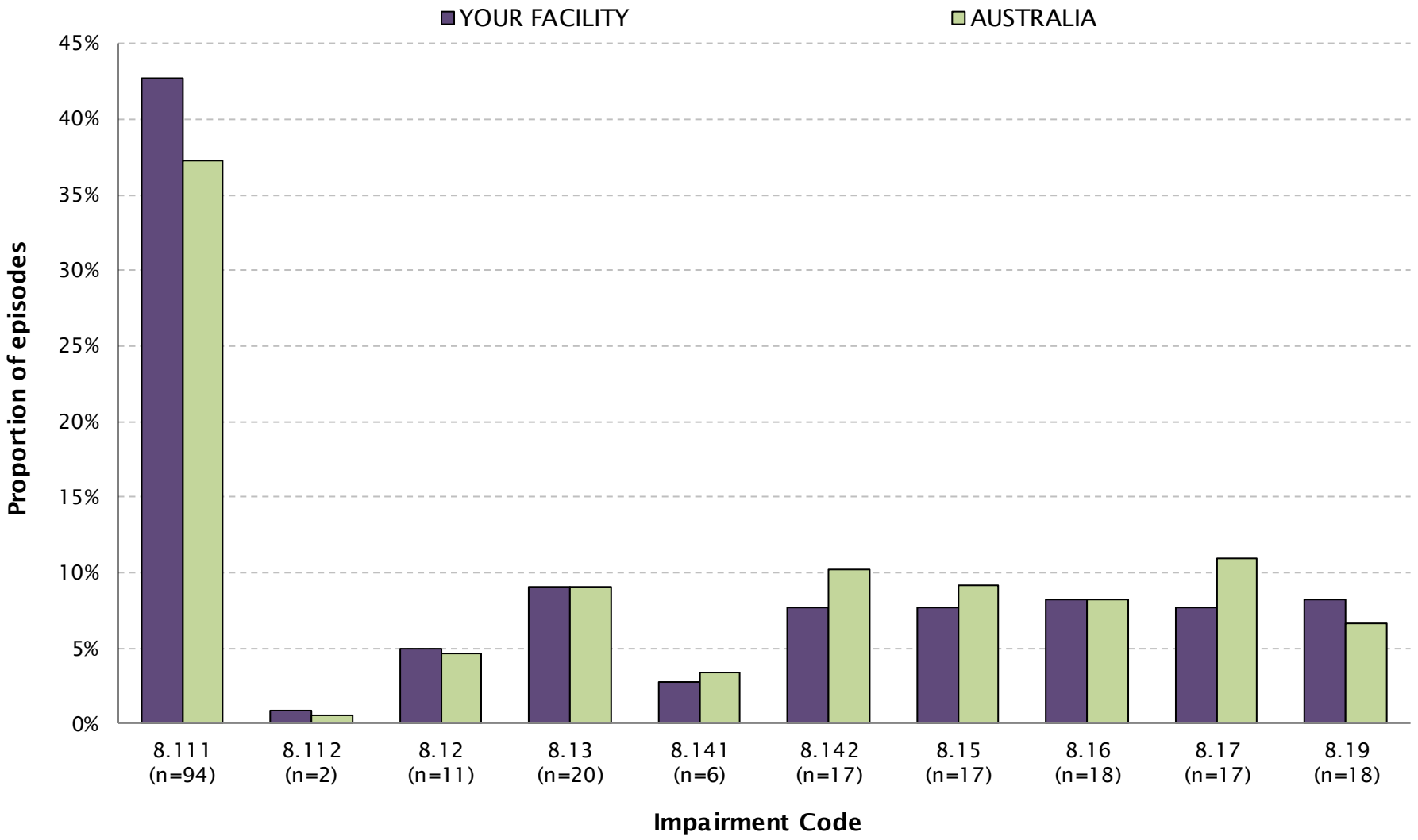
AUSTRALIA — N (%)														
Impairment	4AH1		4AH2		4AH3		4AH4		4AZ3		4AZ4		All Orthopaedic Fractures	
8.111 Fracture of hip, unilateral	1,748	(23.7)	2,041	(27.7)	1,502	(20.4)	1,777	(24.1)	287	(3.9)	18	(0.2)	7,373	(100.0)
8.112 Fracture of hip, bilateral	36	(35.3)	23	(22.5)	18	(17.6)	22	(21.6)	3	(2.9)	0	(0.0)	102	(100.0)
8.12 Fracture of shaft of femur	297	(32.3)	213	(23.2)	167	(18.2)	216	(23.5)	23	(2.5)	4	(0.4)	920	(100.0)
8.13 Fracture of pelvis	507	(28.2)	571	(31.8)	365	(20.3)	313	(17.4)	38	(2.1)	1	(0.1)	1,795	(100.0)
8.141 Fracture of knee	241	(36.3)	203	(30.6)	109	(16.4)	100	(15.1)	9	(1.4)	1	(0.2)	663	(100.0)
8.142 Fracture of leg, ankle, foot	772	(38.4)	515	(25.6)	338	(16.8)	338	(16.8)	34	(1.7)	11	(0.5)	2,008	(100.0)
8.15 Fracture of upper limb	483	(26.6)	633	(34.9)	391	(21.5)	269	(14.8)	38	(2.1)	1	(0.1)	1,815	(100.0)
8.16 Fracture of spine	446	(27.5)	661	(40.7)	271	(16.7)	206	(12.7)	36	(2.2)	4	(0.2)	1,624	(100.0)
8.17 Fracture of multiple sites	641	(29.7)	535	(24.8)	456	(21.1)	475	(22.0)	42	(1.9)	11	(0.5)	2,160	(100.0)
8.19 Other orthopaedic fracture	422	(32.1)	488	(37.1)	214	(16.3)	168	(12.8)	21	(1.6)	3	(0.2)	1,316	(100.0)
All Orthopaedic Fractures	**5,593**	**(28.3)**	**5,883**	**(29.7)**	**3,831**	**(19.4)**	**3,884**	**(19.6)**	**531**	**(2.7)**	**54**	**(0.3)**	**19,776**	**(100.0)**

**There were 0 episodes in YOUR FACILITY and 14 episodes in AUSTRALIA with AN-SNAP class 499A

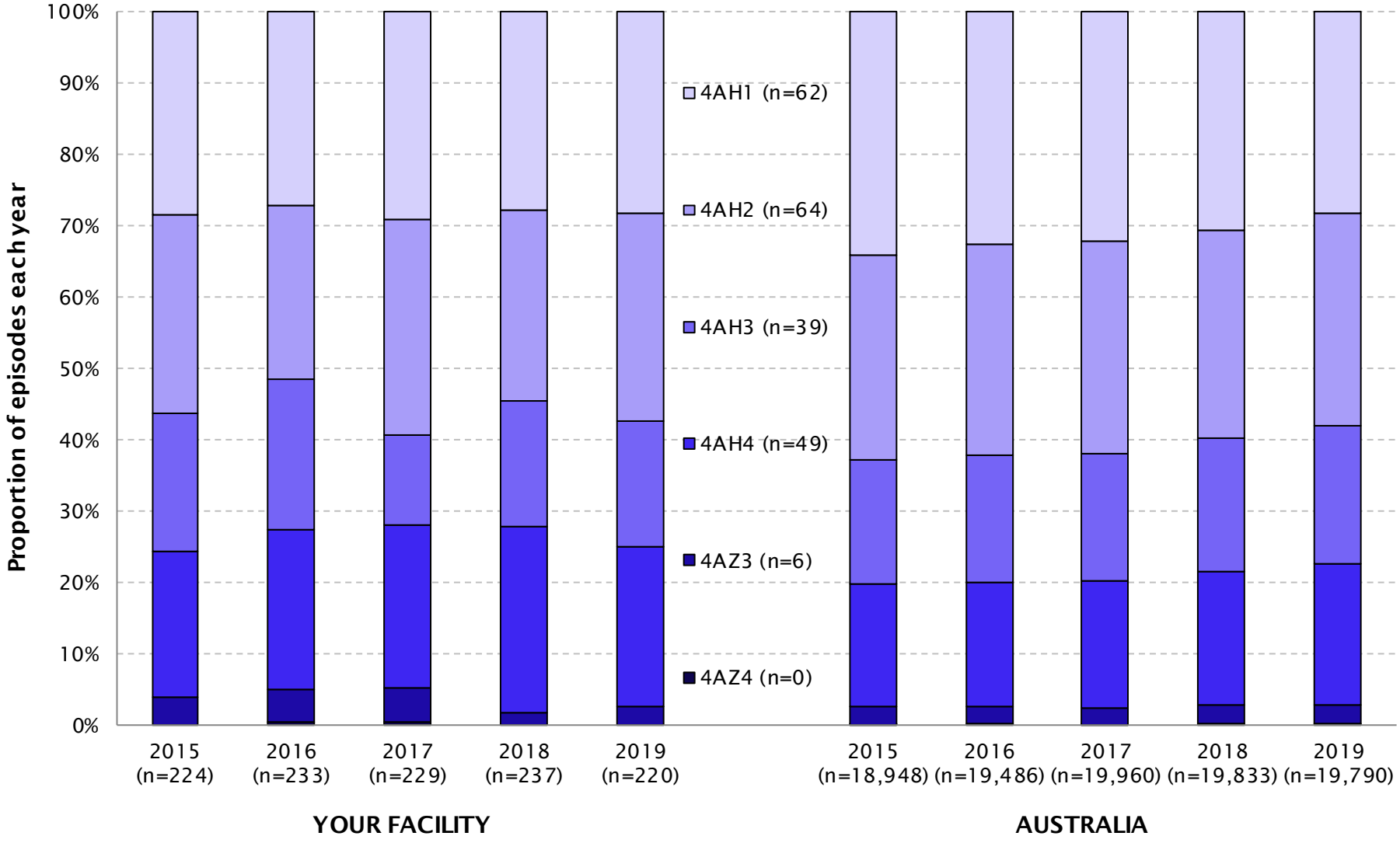
Proportion of episodes by AN-SNAP class



Proportion of episodes by impairment code



Proportion of episodes by AN-SNAP class over time

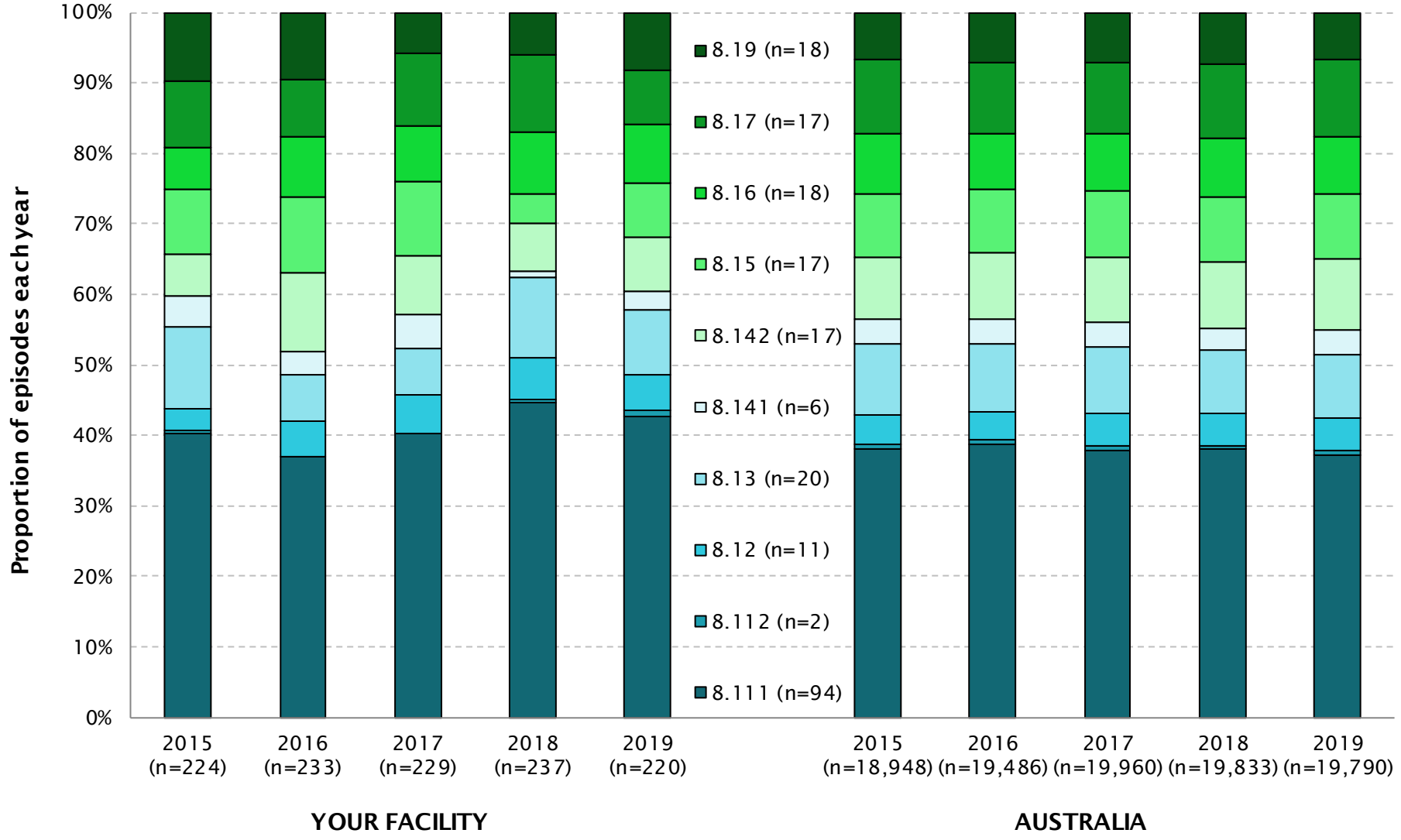


Episodes by AN-SNAP class over time

	YOUR FACILITY — N					AUSTRALIA — N				
AN-SNAP class V4	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AH1 (motor 49-91, cognition 33-35)	63	63	66	66	62	6,462	6,330	6,410	6,071	5,593
4AH2 (motor 49-91, cognition 5-32)	62	57	69	63	64	5,418	5,764	5,933	5,763	5,883
4AH3 (motor 38-48)	43	49	29	42	39	3,302	3,464	3,544	3,688	3,831
4AH4 (motor 19-37)	45	52	52	62	49	3,250	3,405	3,563	3,712	3,884
4AZ3 (motor 13-18, Age ≥ 65)	9	11	11	4	6	459	469	465	543	531
4AZ4 (motor 13-18, Age ≤ 64)	0	1	1	0	0	30	42	27	37	54
499A (Data error - ungroupable)	2	0	1	0	0	27	12	18	19	14
All Fracture AN-SNAP classes	**224**	**233**	**229**	**237**	**220**	**18,948**	**19,486**	**19,960**	**19,833**	**19,790**

	YOUR FACILITY — %					AUSTRALIA — %				
AN-SNAP class V4	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
4AH1 (motor 49-91, cognition 33-35)	28.1	27.0	28.8	27.8	28.2	34.1	32.5	32.1	30.6	28.3
4AH2 (motor 49-91, cognition 5-32)	27.7	24.5	30.1	26.6	29.1	28.6	29.6	29.7	29.1	29.7
4AH3 (motor 38-48)	19.2	21.0	12.7	17.7	17.7	17.4	17.8	17.8	18.6	19.4
4AH4 (motor 19-37)	20.1	22.3	22.7	26.2	22.3	17.2	17.5	17.9	18.7	19.6
4AZ3 (motor 13-18, Age ≥ 65)	4.0	4.7	4.8	1.7	2.7	2.4	2.4	2.3	2.7	2.7
4AZ4 (motor 13-18, Age ≤ 64)	0.0	0.4	0.4	0.0	0.0	0.2	0.2	0.1	0.2	0.3
499A (Data error - ungroupable)	0.9	0.0	0.4	0.0	0.0	0.1	0.1	0.1	0.1	0.1
All Fracture AN-SNAP classes	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Proportion of episodes by impairment code over time



Episodes by impairment code over time

	YOUR FACILITY — N					AUSTRALIA — N				
Impairment	**2015**	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**
8.111 Fracture of hip, unilateral	90	86	92	106	94	7,194	7,531	7,552	7,544	7,380
8.112 Fracture of hip, bilateral	1	0	0	1	2	129	154	138	110	102
8.12 Fracture of shaft of femur	7	12	13	14	11	820	770	912	891	920
8.13 Fracture of pelvis	26	15	15	27	20	1,916	1,855	1,869	1,790	1,796
8.141 Fracture of knee	10	8	11	2	6	626	683	714	616	663
8.142 Fracture of leg, ankle, foot	13	26	19	16	17	1,695	1,847	1,855	1,861	2,011
8.15 Fracture of upper limb	21	25	24	10	17	1,710	1,762	1,859	1,839	1,815
8.16 Fracture of spine	13	20	18	21	18	1,589	1,518	1,612	1,628	1,624
8.17 Fracture of multiple sites	21	19	24	26	17	1,994	1,984	2,021	2,099	2,163
8.19 Other orthopaedic fracture	22	22	13	14	18	1,275	1,382	1,428	1,455	1,316
All Orthopaedic Fractures	**224**	**233**	**229**	**237**	**220**	**18,948**	**19,486**	**19,960**	**19,833**	**19,790**

	YOUR FACILITY — %					AUSTRALIA — %				
Impairment	**2015**	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**
8.111 Fracture of hip, unilateral	40.2	36.9	40.2	44.7	42.7	38.0	38.6	37.8	38.0	37.3
8.112 Fracture of hip, bilateral	0.4	0.0	0.0	0.4	0.9	0.7	0.8	0.7	0.6	0.5
8.12 Fracture of shaft of femur	3.1	5.2	5.7	5.9	5.0	4.3	4.0	4.6	4.5	4.6
8.13 Fracture of pelvis	11.6	6.4	6.6	11.4	9.1	10.1	9.5	9.4	9.0	9.1
8.141 Fracture of knee	4.5	3.4	4.8	0.8	2.7	3.3	3.5	3.6	3.1	3.4
8.142 Fracture of leg, ankle, foot	5.8	11.2	8.3	6.8	7.7	8.9	9.5	9.3	9.4	10.2
8.15 Fracture of upper limb	9.4	10.7	10.5	4.2	7.7	9.0	9.0	9.3	9.3	9.2
8.16 Fracture of spine	5.8	8.6	7.9	8.9	8.2	8.4	7.8	8.1	8.2	8.2
8.17 Fracture of multiple sites	9.4	8.2	10.5	11.0	7.7	10.5	10.2	10.1	10.6	10.9
8.19 Other orthopaedic fracture	9.8	9.4	5.7	5.9	8.2	6.7	7.1	7.2	7.3	6.6
All Orthopaedic Fractures	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Summary of your incomplete episodes

	YOUR FACILITY		AUSTRALIA	
Complete episode analysis	**No.**	**(%)**	**No.**	**(%)**
Total reporting episodes	220		19,790	
Incomplete episodes	23	(10.5)	2,452	(12.4)
Reason for incomplete:				
Discharged home with end FIM=18	0	(0.0)	23	(0.9)
Discharged home with no end FIM	2	(8.7)	23	(0.9)
Discharged to another hospital	10	(43.5)	1,203	(49.1)
Discharged back to acute	9	(39.1)	904	(36.9)
Discharged at own risk	0	(0.0)	124	(5.1)
Change of care type (LOS<1 week)	0	(0.0)	32	(1.3)
Died	1	(4.3)	42	(1.7)
Other/Unknown Discharge	1	(4.3)	101	(4.1)

	YOUR FACILITY			
	Incomplete Episodes		**Complete episodes**	
Impairment Code:				
8.111 Fracture of hip, unilateral	11	(47.8)	83	(42.1)
8.112 Fracture of hip, bilateral	1	(4.3)	1	(0.5)
8.12 Fracture of shaft of femur	2	(8.7)	9	(4.6)
8.13 Fracture of pelvis	2	(8.7)	18	(9.1)
8.141 Fracture of knee	1	(4.3)	5	(2.5)
8.142 Fracture of leg, ankle, foot	0	(0.0)	17	(8.6)
8.15 Fracture of upper limb	2	(8.7)	15	(7.6)
8.16 Fracture of spine	0	(0.0)	18	(9.1)
8.17 Fracture of multiple sites	2	(8.7)	15	(7.6)
8.19 Other orthopaedic fracture	2	(8.7)	16	(8.1)
AN-SNAP Class:				
4AH1 (motor 49-91, cognition 33-35)	7	(30.4)	55	(27.9)
4AH2 (motor 49-91, cognition 5-32)	3	(13.0)	61	(31.0)
4AH3 (motor 38-48)	5	(21.7)	34	(17.3)
4AH4 (motor 19-37)	6	(26.1)	43	(21.8)
4AZ3 (motor 13-18, Age ≥ 65)	2	(8.7)	4	(2.0)
4AZ4 (motor 13-18, Age ≤ 64)	0	(0.0)	0	(0.0)

Review of FIM item scoring

by AN-SNAP class

Interpreting the comparative FIM item scoring charts

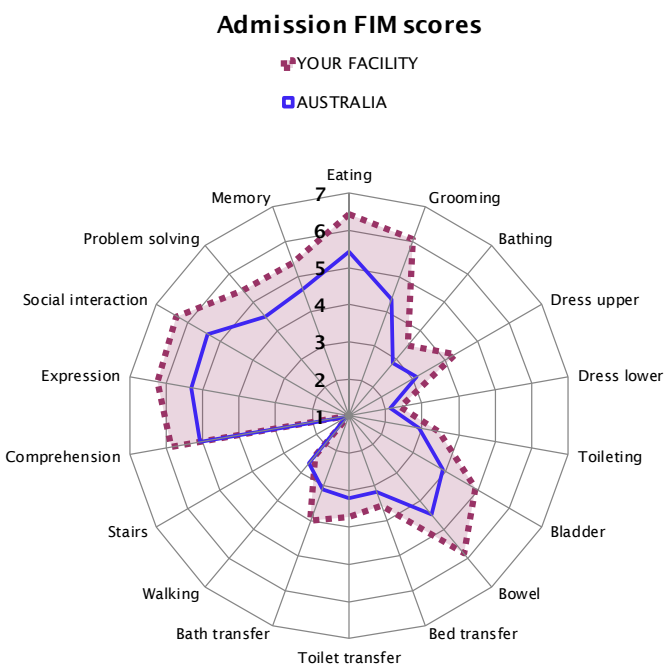


Figure A

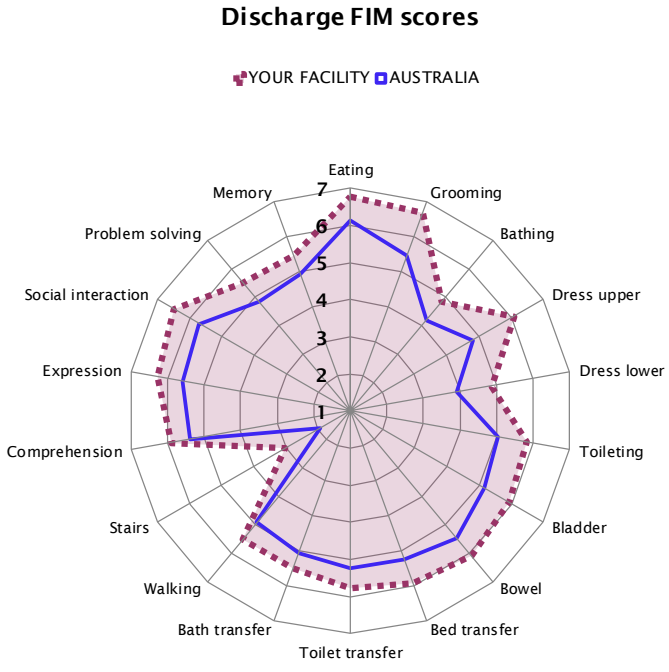
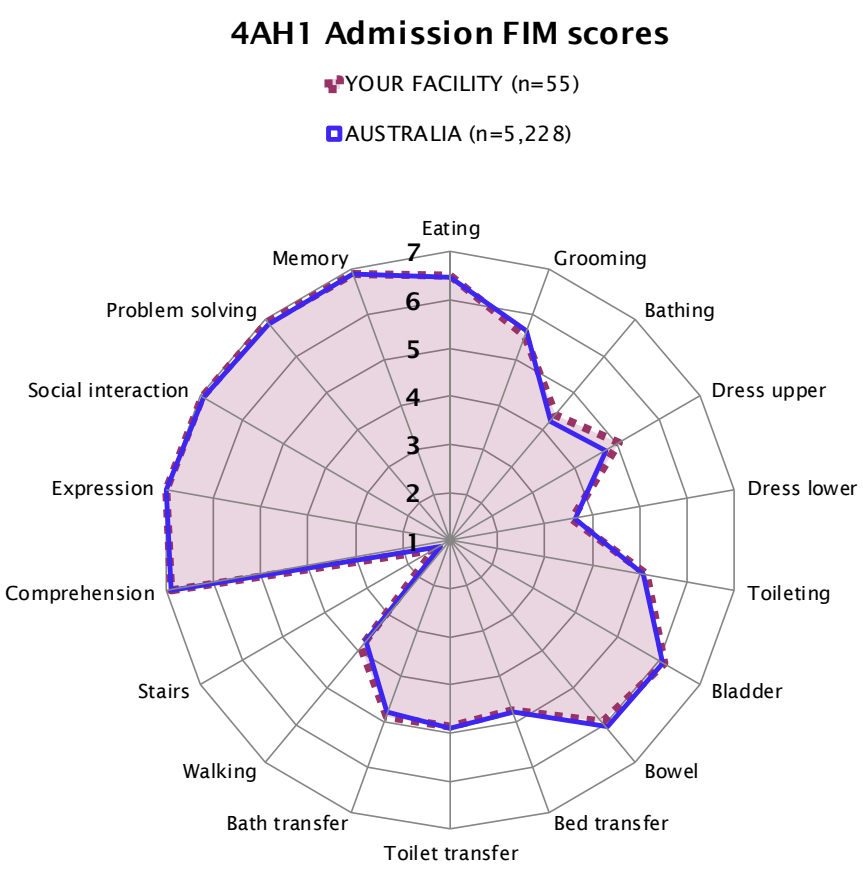
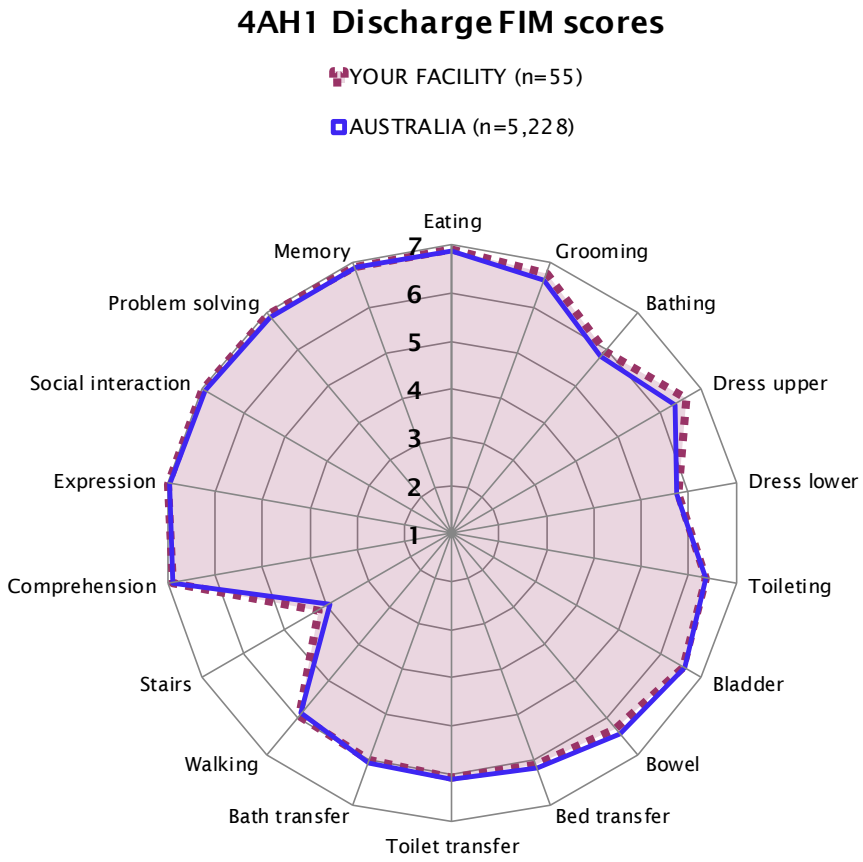


Figure B

The FIM splat provides a graphic presentation of functional status in a radar chart. The 18 FIM items are arranged in order as 'spokes' of a wheel and the scoring levels from 1 (total dependence) to 7 (total independence) run from the centre outwards. The mean FIM item score for each item is indicated – a perfect score would be demonstrated as a large circle. The two FIM splats compare FIM scoring on admission (Figure A) and discharge (Figure B) between YOUR FACILITY and NATIONAL data – differences in the two shaded areas indicate differences in mean admission/discharge scoring. Graphs include completed episodes with valid FIM scoring.

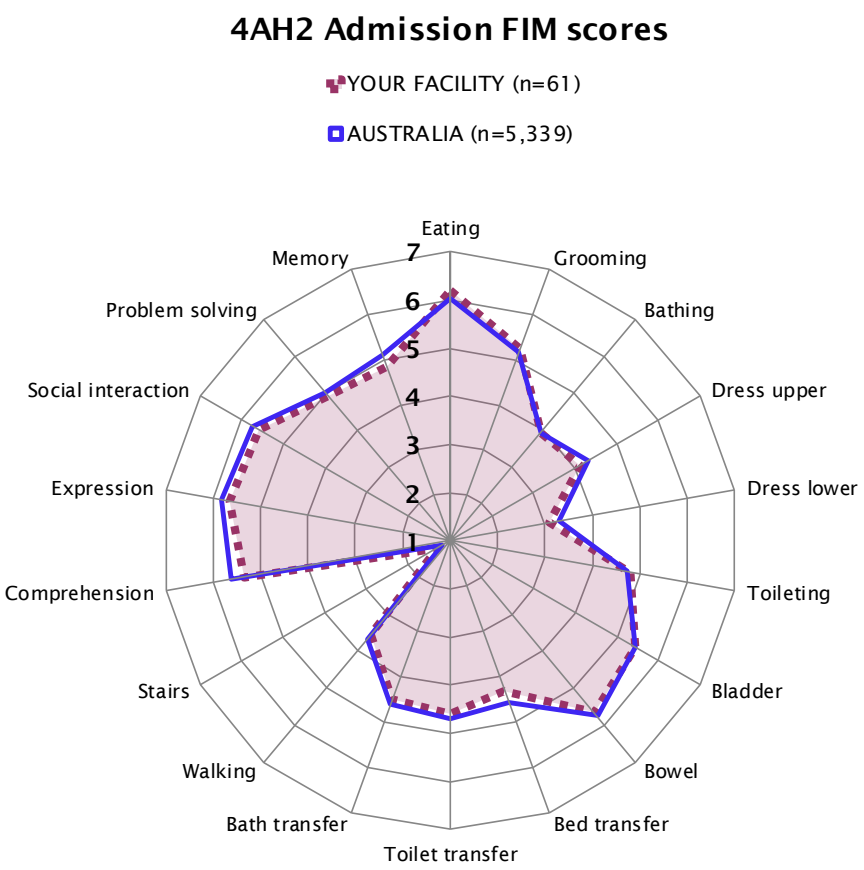
Comparative FIM item scoring AN-SNAP class 4AH1

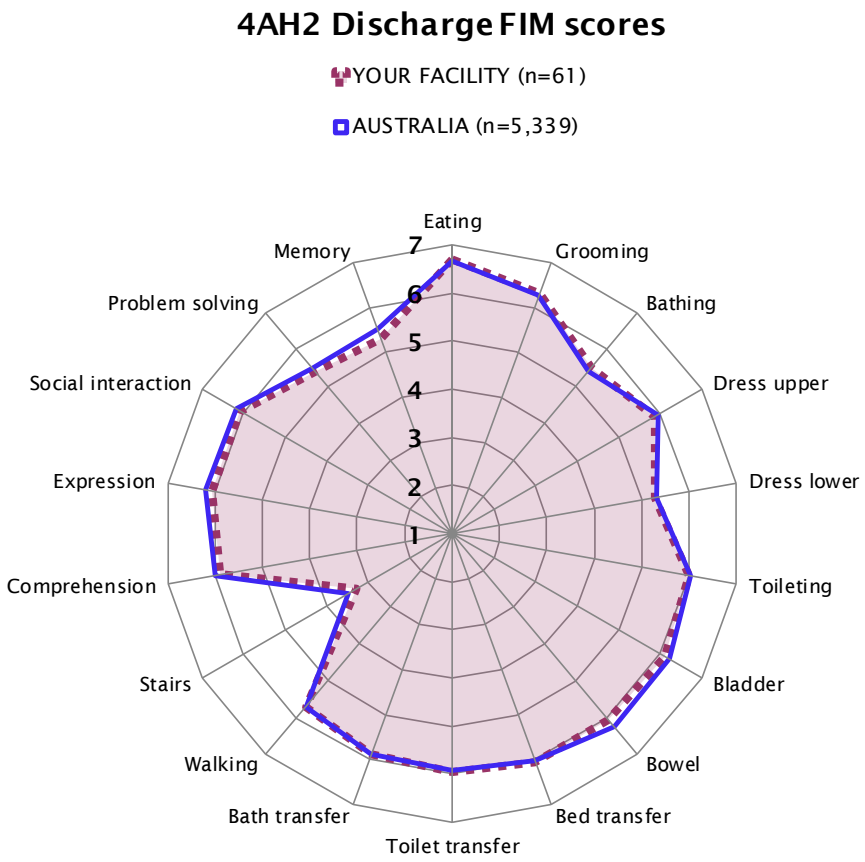




NOTE: Includes only completed episodes with valid FIM scores

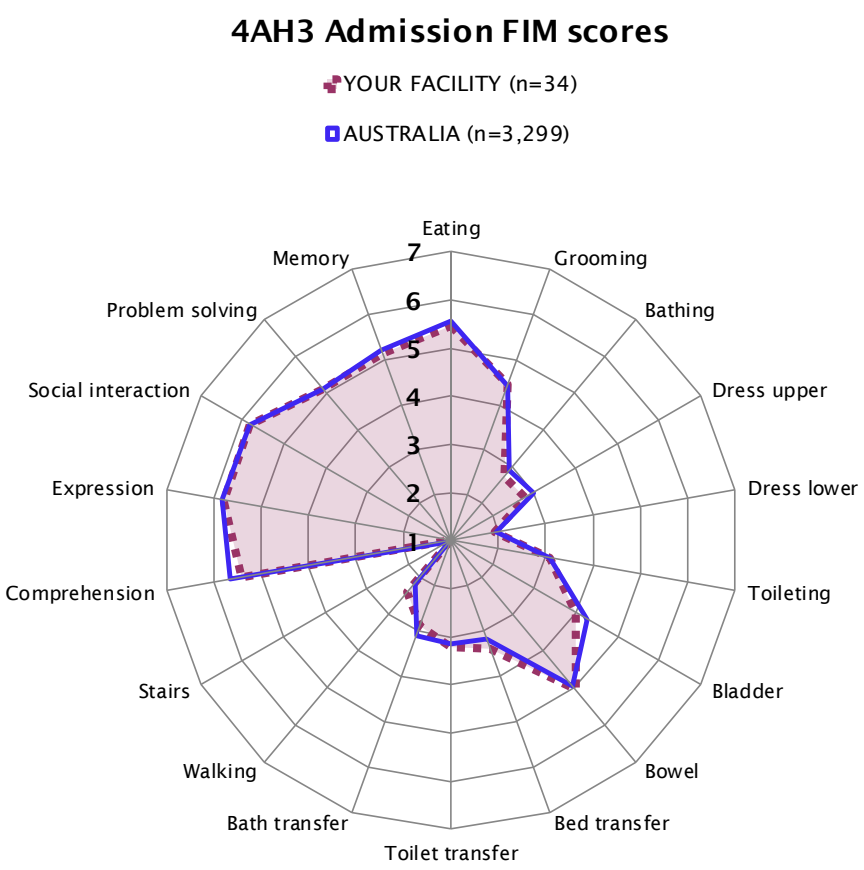
Comparative FIM item scoring AN-SNAP class 4AH2

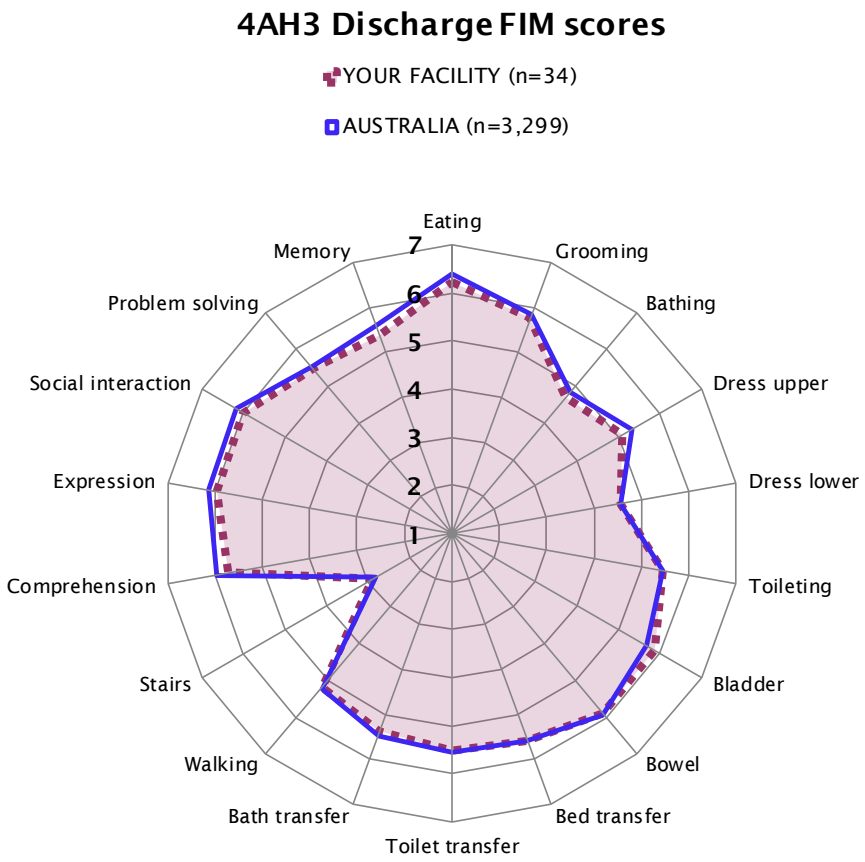




NOTE: Includes only completed episodes with valid FIM scores

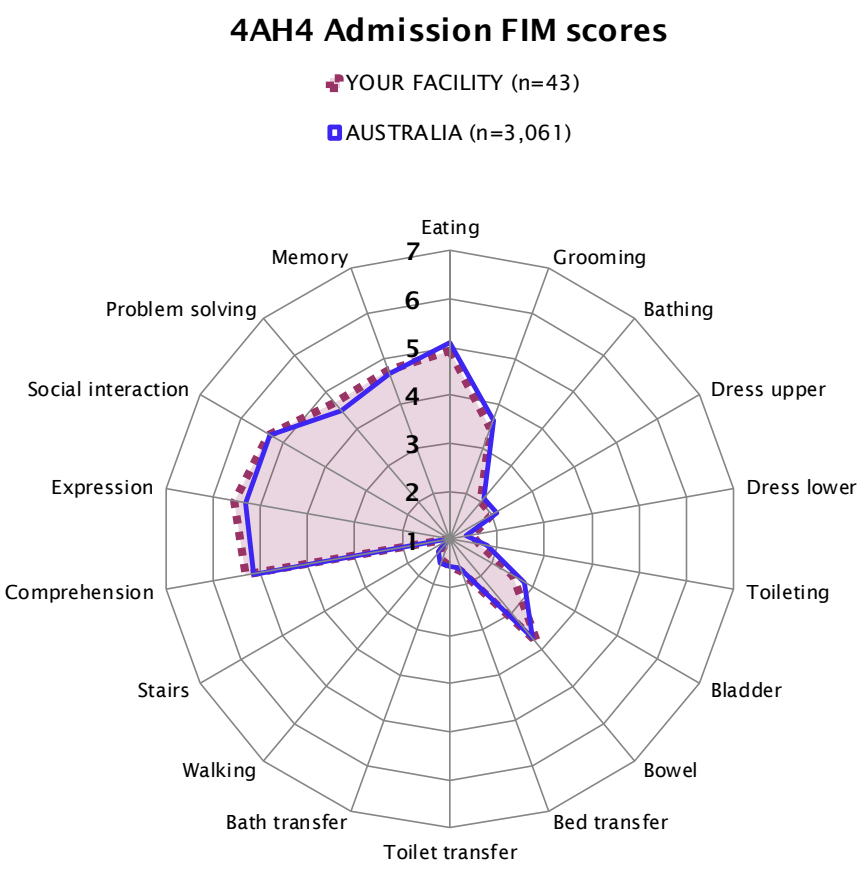
Comparative FIM item scoring AN-SNAP class 4AH3

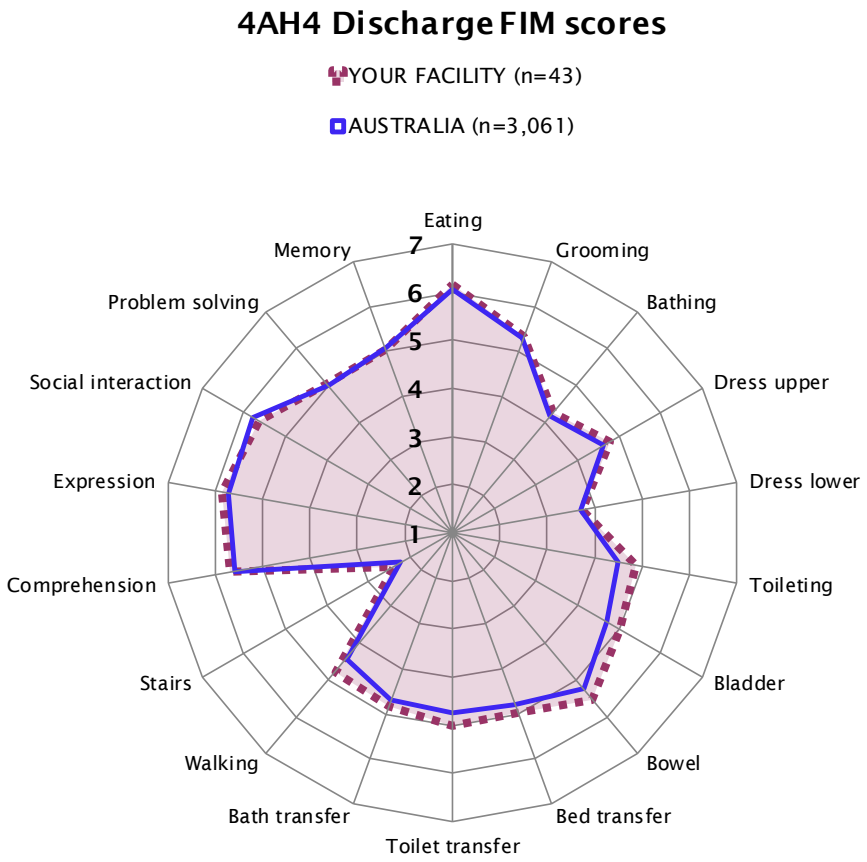




NOTE: Includes only completed episodes with valid FIM scores

Comparative FIM item scoring AN-SNAP class 4AH4





NOTE: Includes only completed episodes with valid FIM scores

Outcome analysis

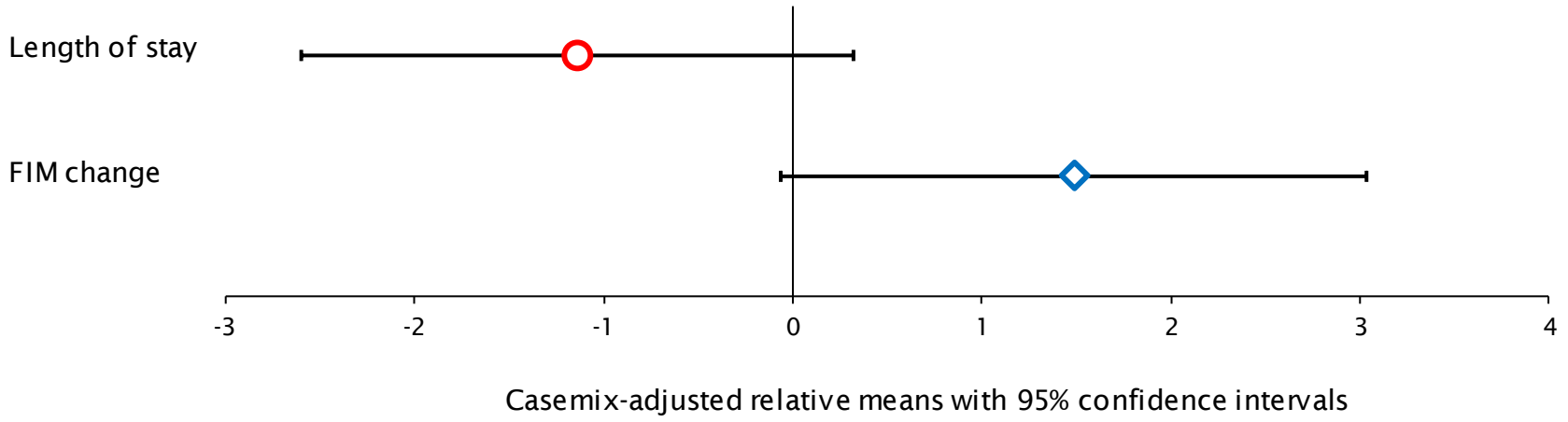
Completed episodes by AN-SNAP class and impairment code

	YOUR FACILITY			AUSTRALIA		
AN-SNAP class V4	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
4AH1 (motor 49-91, cognition 33-35)	62	55	88.7	5,593	5,228	93.5
4AH2 (motor 49-91, cognition 5-32)	64	61	95.3	5,883	5,341	90.8
4AH3 (motor 38-48)	39	34	87.2	3,831	3,299	86.1
4AH4 (motor 19-37)	49	43	87.8	3,884	3,065	78.9
4AZ3 (motor 13-18, Age ≥ 65)	6	4	66.7	531	367	69.1
4AZ4 (motor 13-18, Age ≤ 64)	0	0	—	54	35	64.8
499A (Data error - ungroupable)	0	0	—	14	3	21.4
All Fracture AN-SNAP classes	**220**	**197**	**89.5**	**19,790**	**17,338**	**87.6**

	YOUR FACILITY			AUSTRALIA		
Impairment	All episodes	Completed episodes	% Complete	All episodes	Completed episodes	% Complete
8.111 Fracture of hip, unilateral	94	83	88.3	7,380	6,332	85.8
8.112 Fracture of hip, bilateral	2	1	50.0	102	89	87.3
8.12 Fracture of shaft of femur	11	9	81.8	920	806	87.6
8.13 Fracture of pelvis	20	18	90.0	1,796	1,616	90.0
8.141 Fracture of knee	6	5	83.3	663	599	90.3
8.142 Fracture of leg, ankle, foot	17	17	100.0	2,011	1,788	88.9
8.15 Fracture of upper limb	17	15	88.2	1,815	1,606	88.5
8.16 Fracture of spine	18	18	100.0	1,624	1,430	88.1
8.17 Fracture of multiple sites	17	15	88.2	2,163	1,888	87.3
8.19 Other orthopaedic fracture	18	16	88.9	1,316	1,184	90.0
All Fracture AN-SNAP classes	**220**	**197**	**89.5**	**19,790**	**17,338**	**87.6**

NOTE: All outcomes analysis are based on completed episodes. A definition of completed episodes can be found in Appendix 1 (Glossary).

Casemix-adjusted* relative means

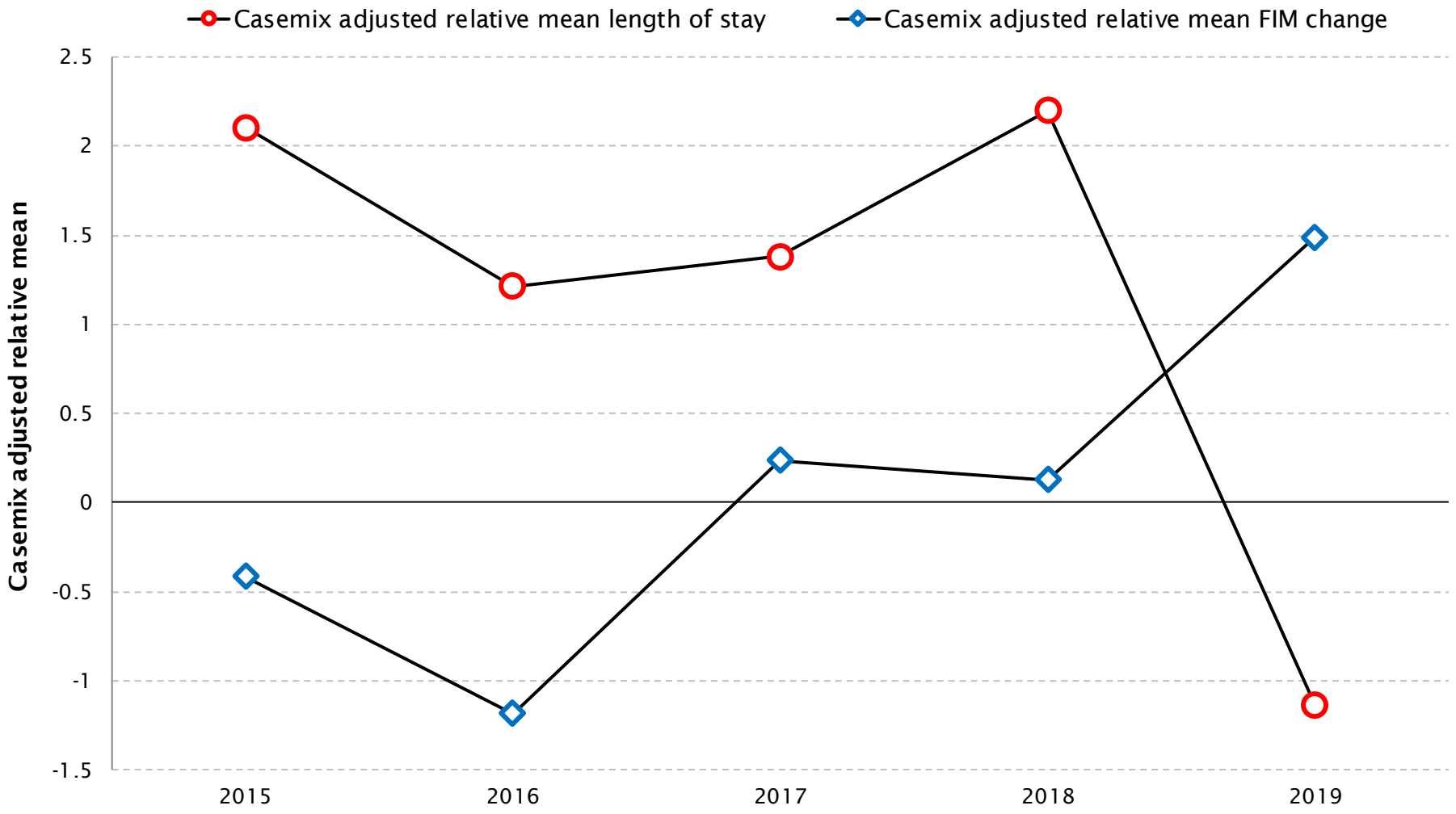


Casemix-adjusted relative means with 95% confidence intervals

	YOUR FACILITY		AUSTRALIA
Outcome measures	Casemix-adjusted* relative mean	95% CI	IQR
Length of stay	-1.1	-2.6 to 0.3	-7.5 to 4.5
FIM change	1.5	-0.1 to 3.0	-7.2 to 7.4

NOTE: Includes only completed episodes with valid FIM scores and LOS

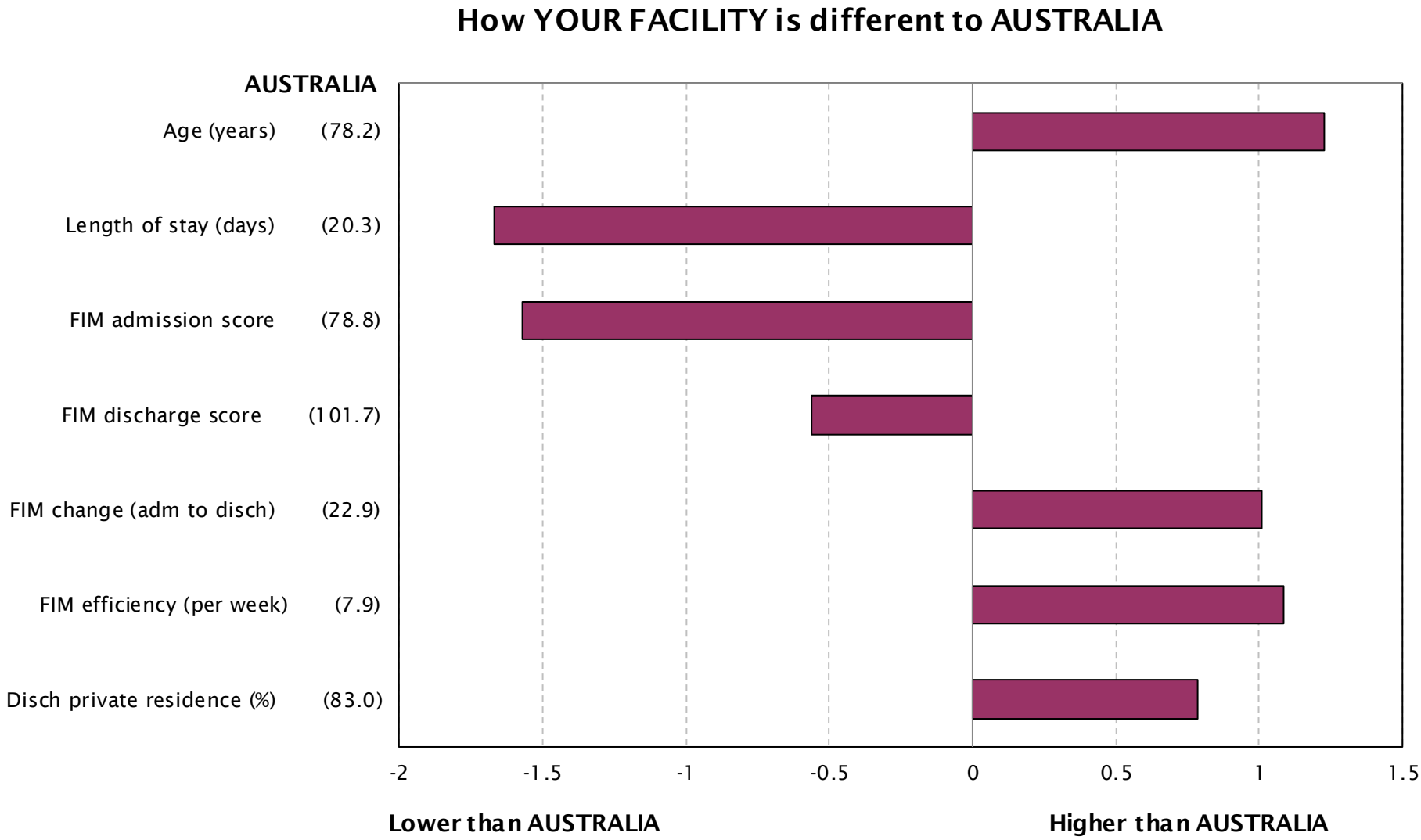
Casemix-adjusted* relative means over time



*Casemix-adjusted values based on FY 2019

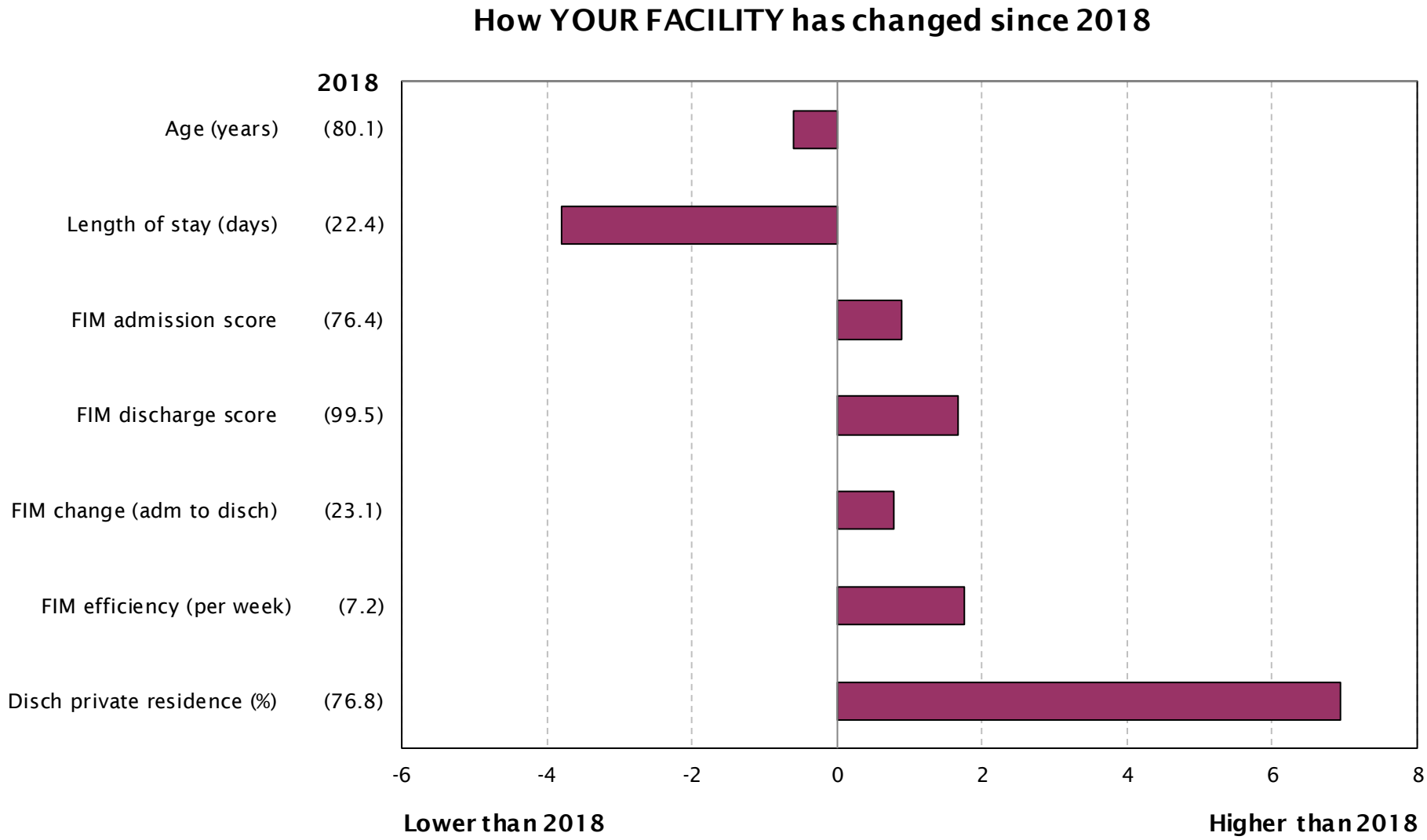
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Outcome measures – difference from National



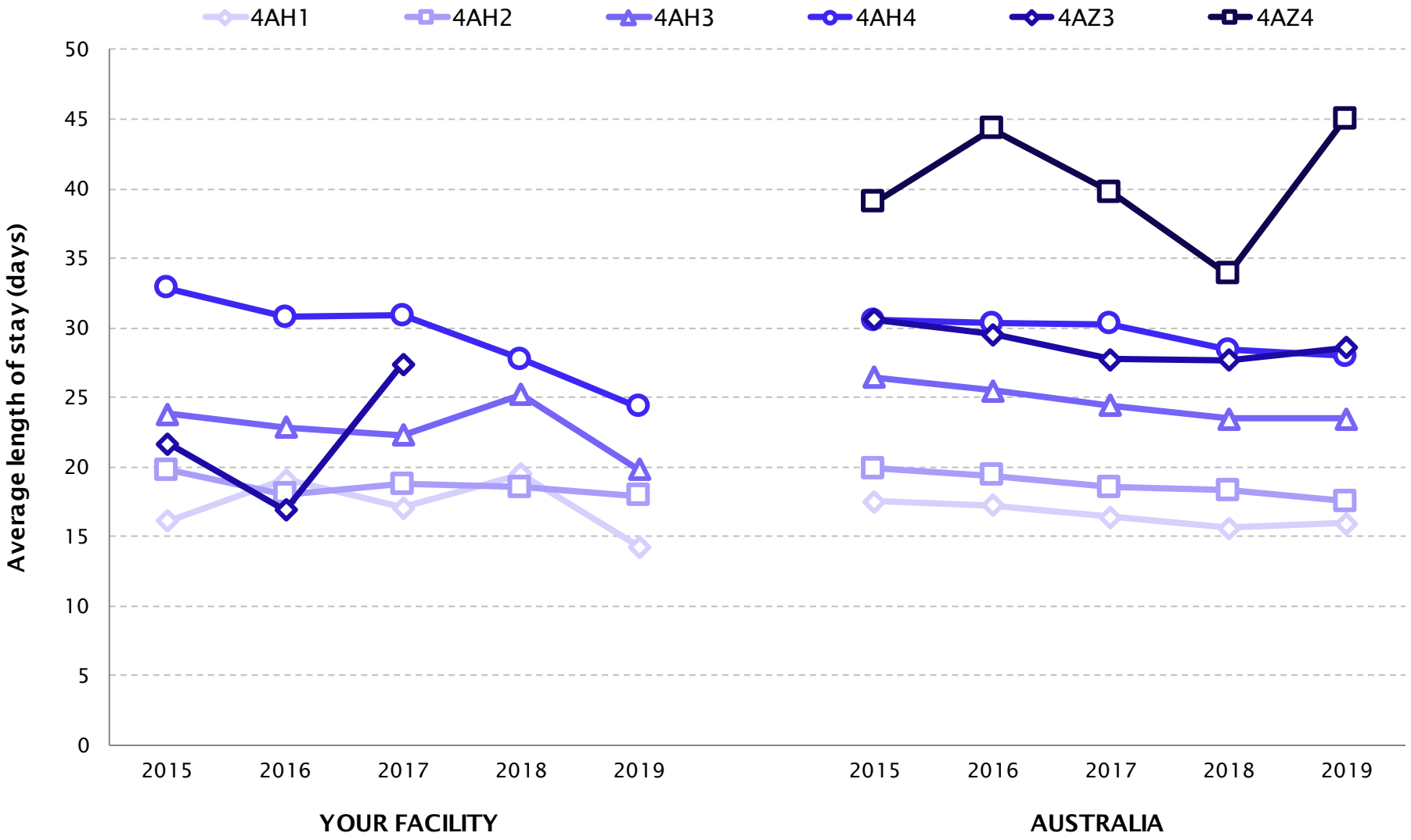
NOTE: Includes only completed episodes with valid FIM scores and LOS

Outcome measures – difference from last year



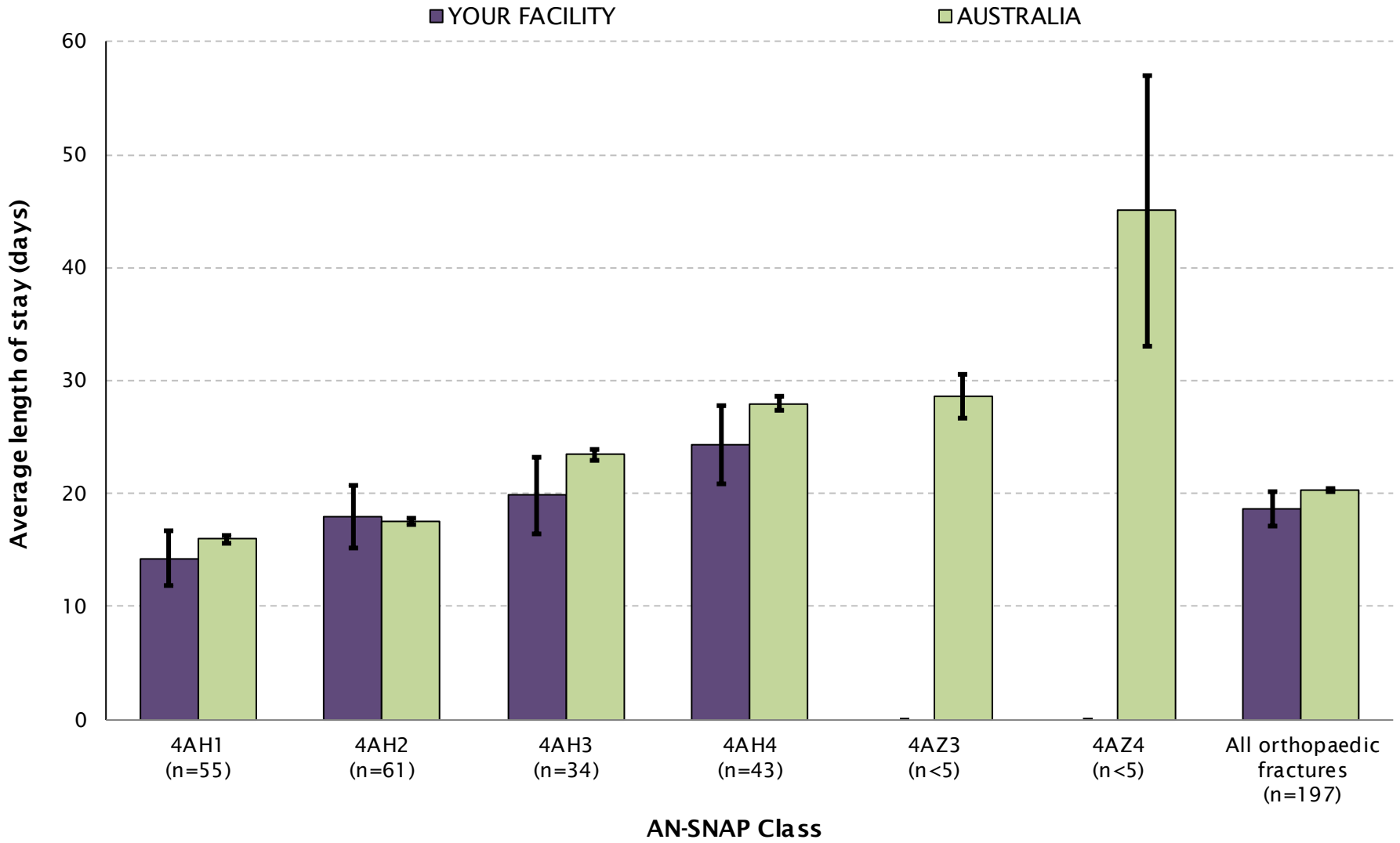
NOTE: Includes only completed episodes with valid FIM scores and LOS

Average length of stay by AN-SNAP class over time



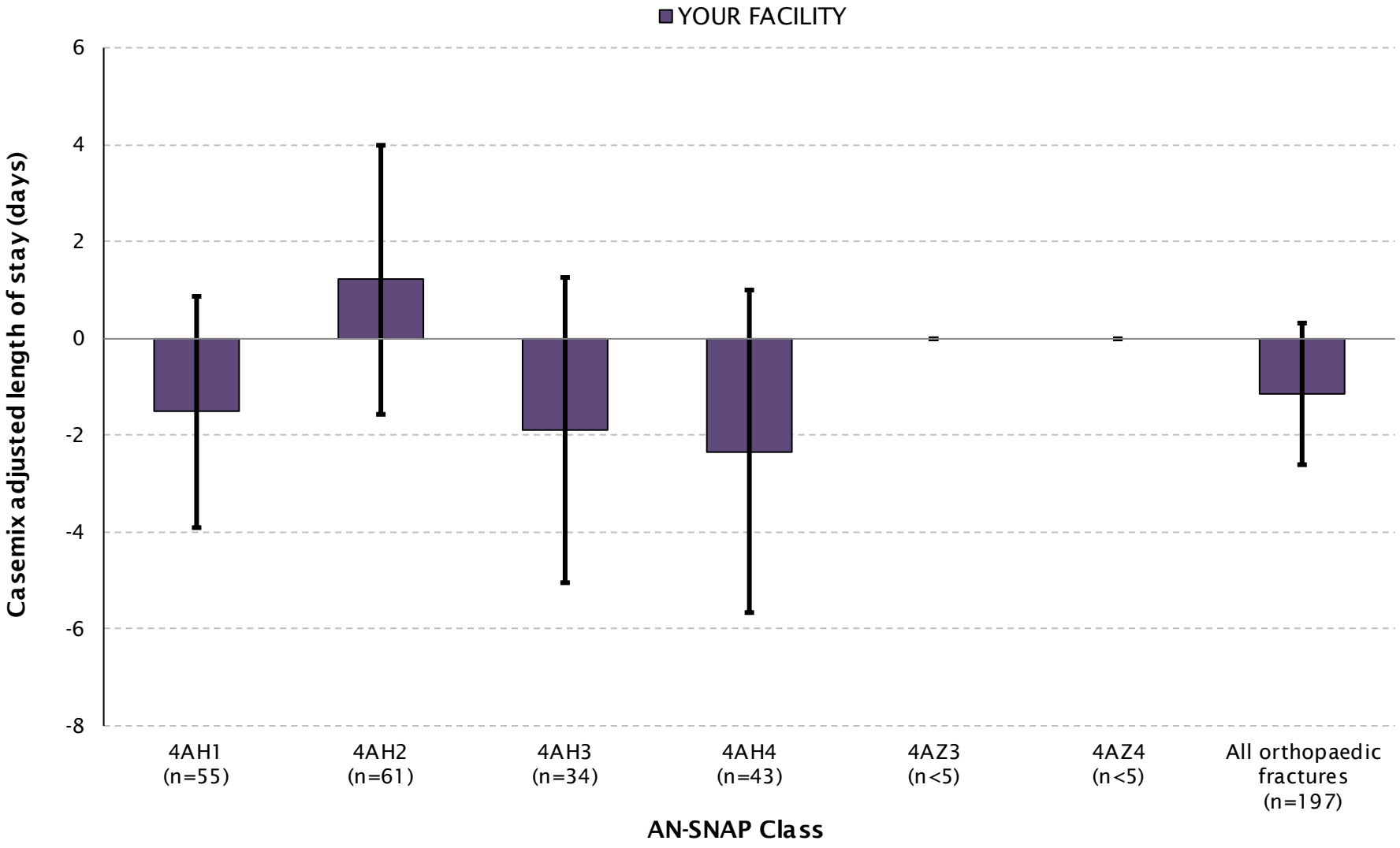
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

Average length of stay by AN-SNAP class



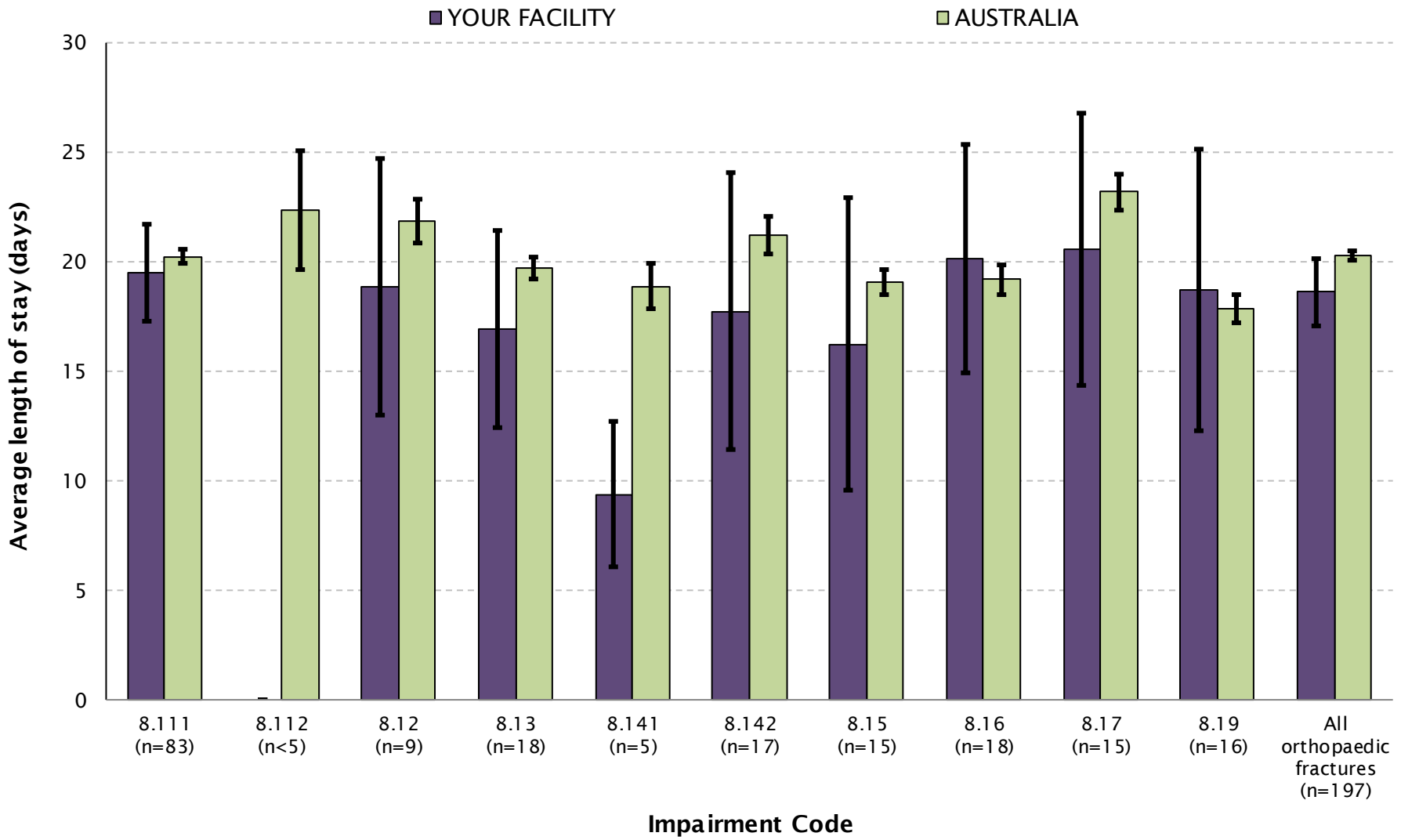
NOTE: Includes only completed episodes with valid LOS; where n<5 average LOS will not be shown

Casemix-adjusted relative mean length of stay by AN-SNAP class



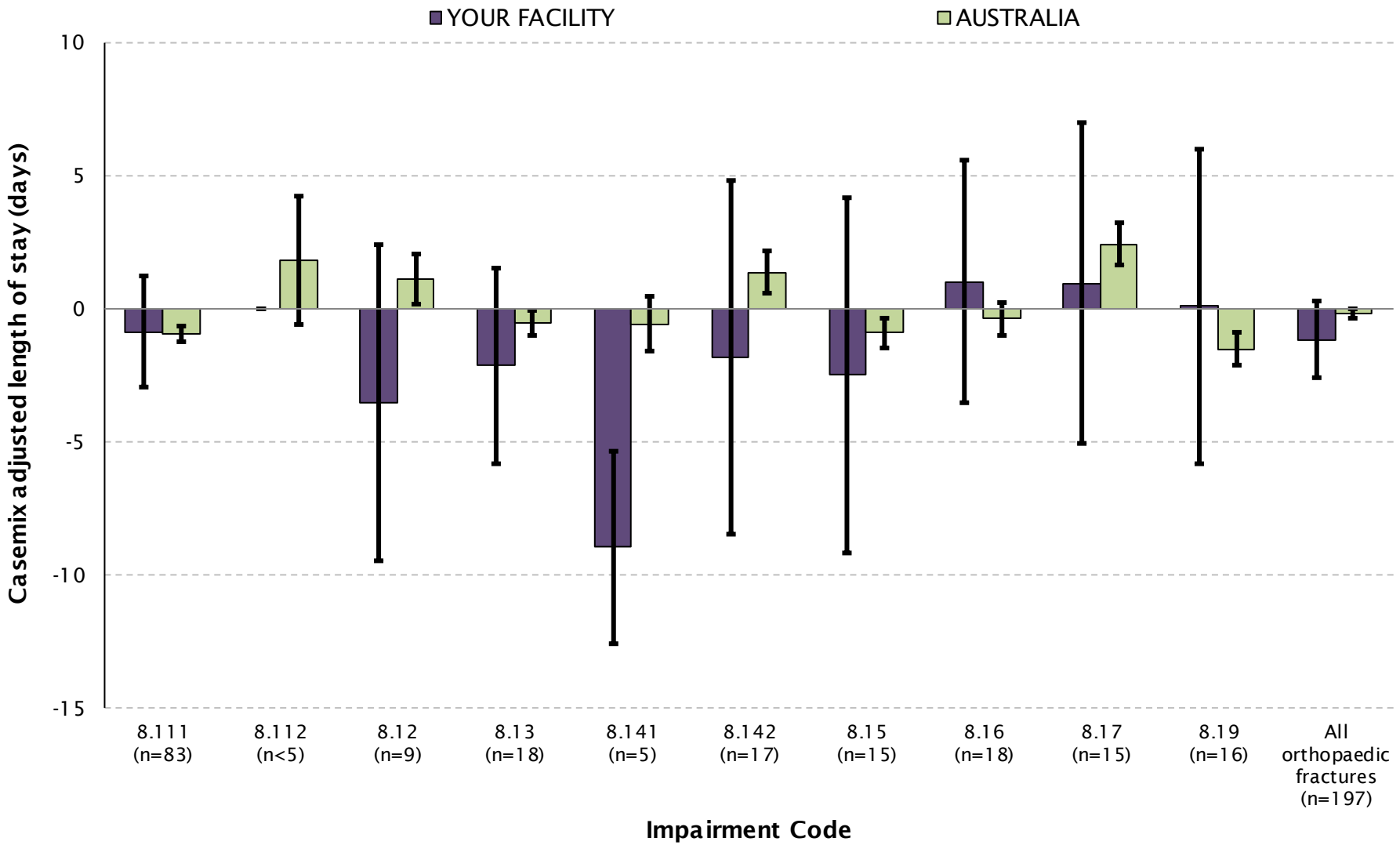
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMI LOS will not be shown

Average length of stay by impairment



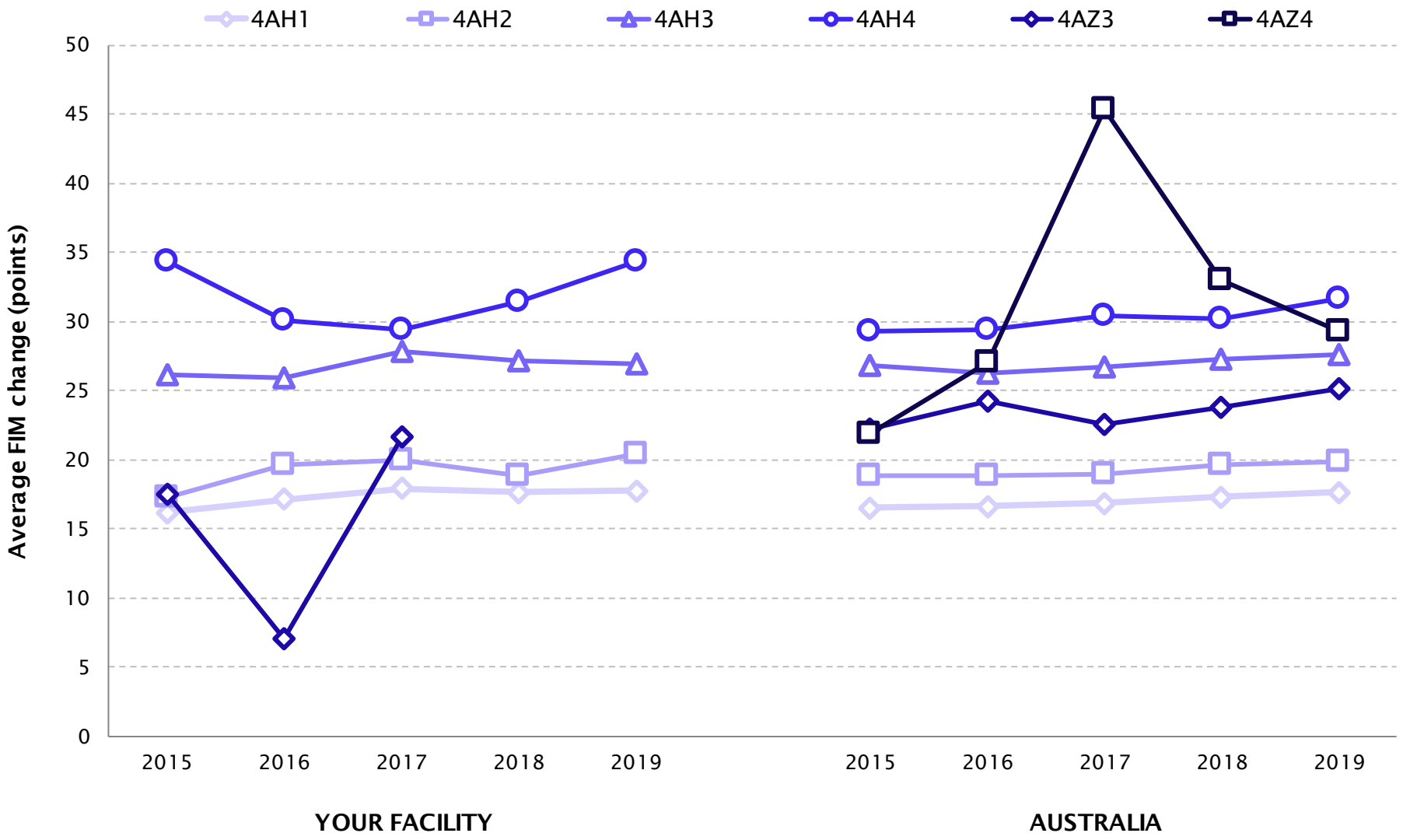
NOTE: Includes only completed episodes with valid LOS, where n<5 average LOS will not be shown

Casemix-adjusted relative mean length of stay by impairment



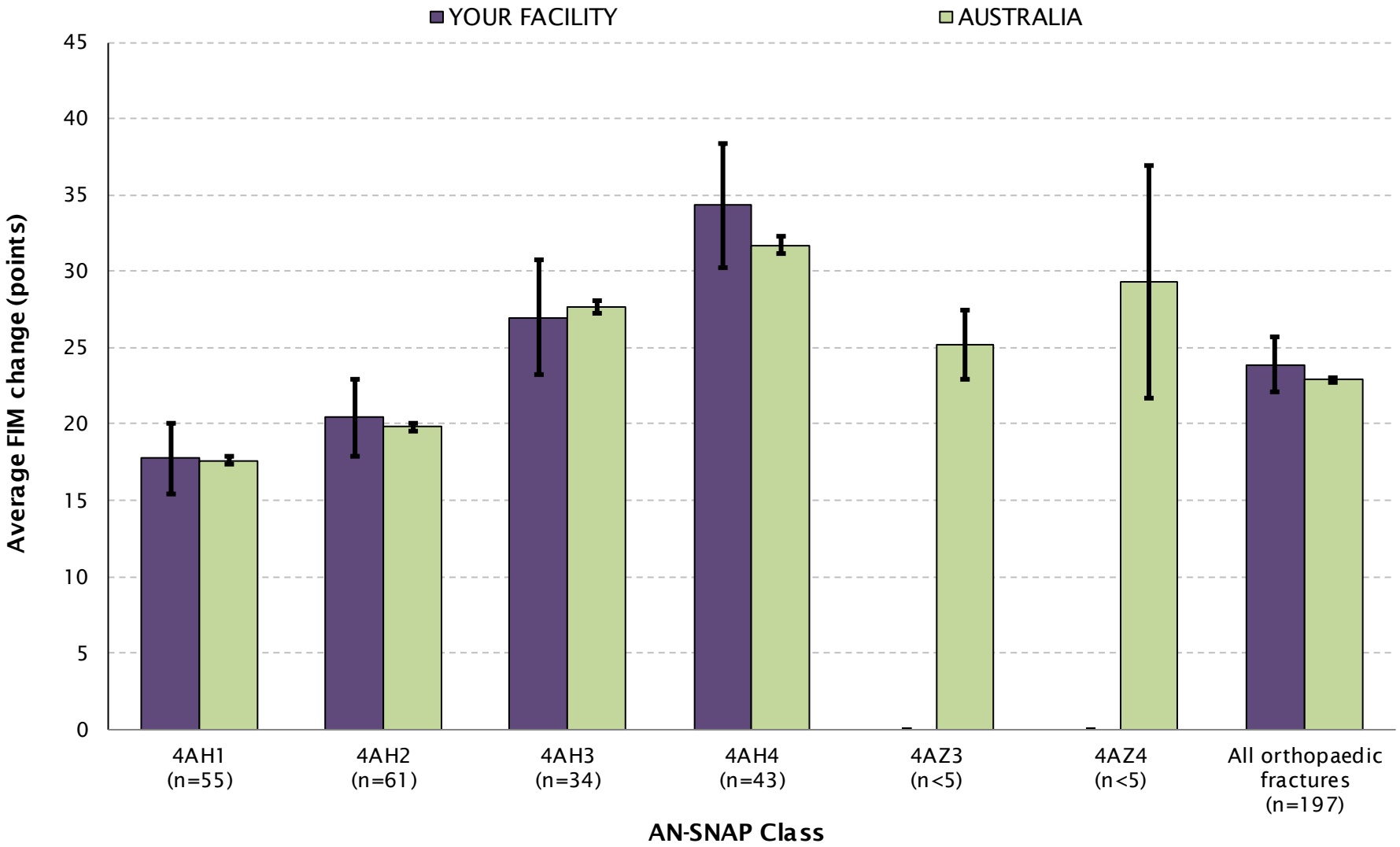
NOTE: Includes only completed episodes with valid LOS; where n<5 CARMI LOS will not be shown

Average FIM change by AN-SNAP class over time



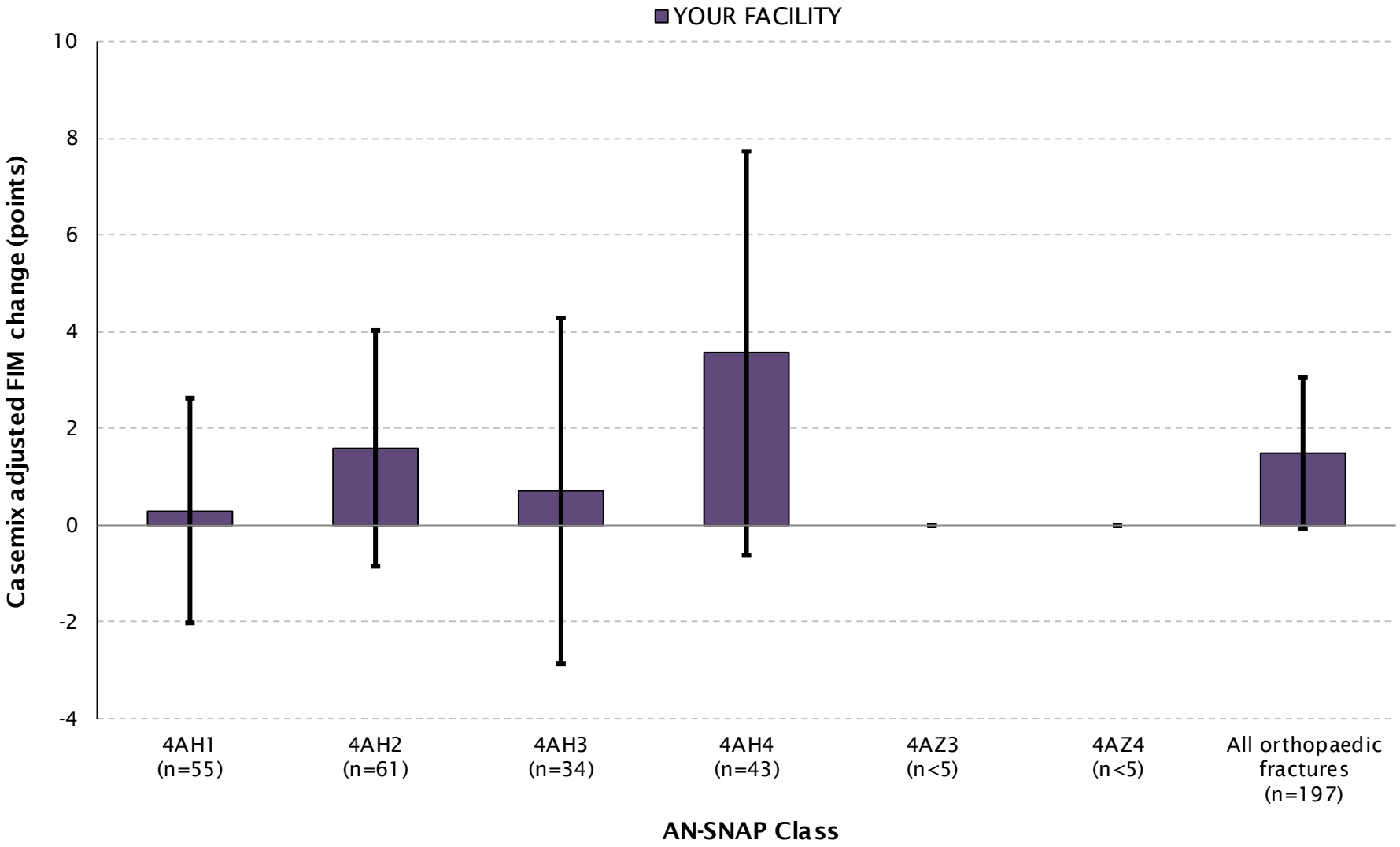
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

Average FIM change by AN-SNAP class



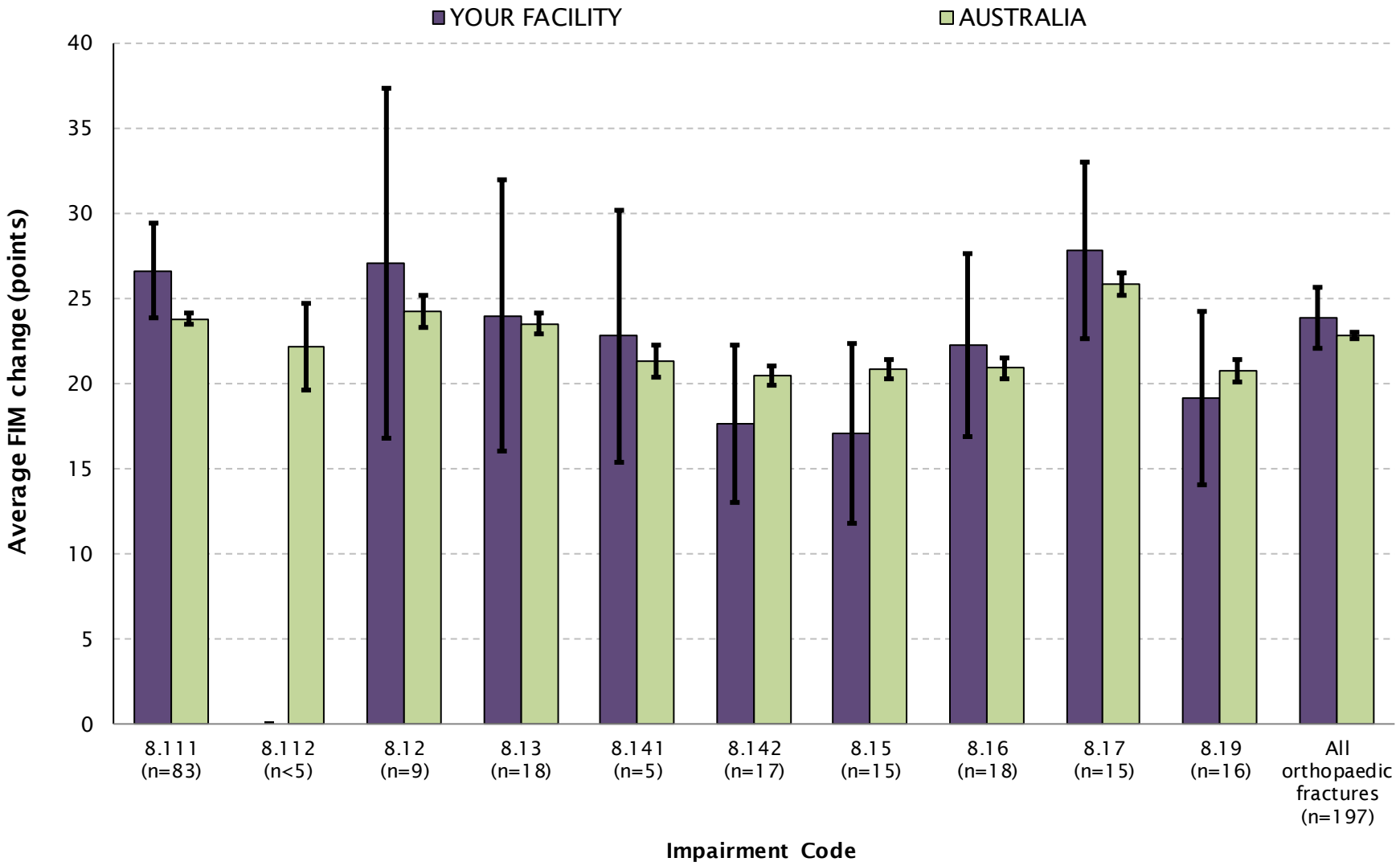
NOTE: Includes only completed episodes with valid FIM scores; where n<5 average FIM change will not be shown

Casemix-adjusted relative mean FIM change by AN-SNAP class



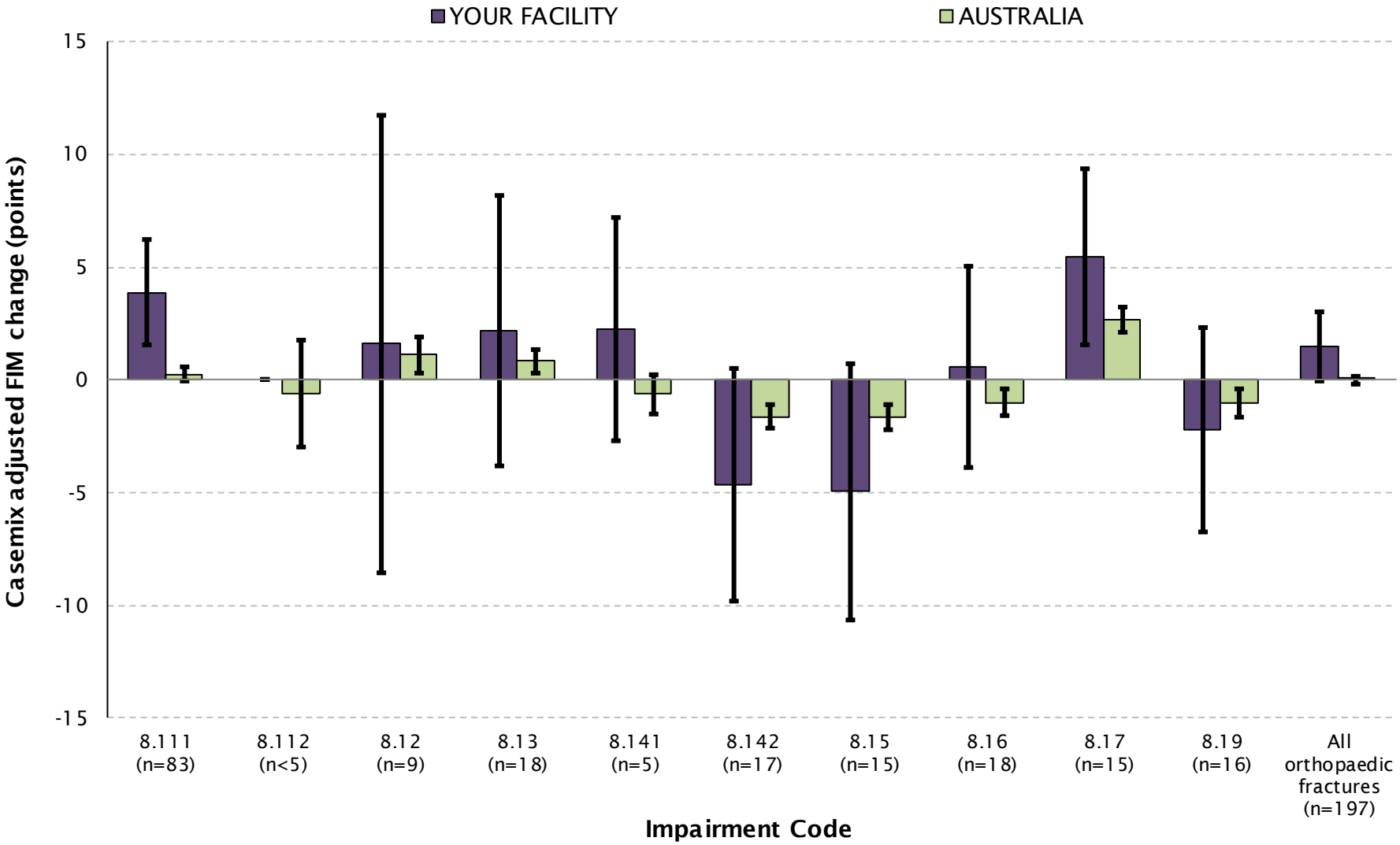
NOTE: Includes only completed episodes with valid FIM scores, where n<5 CARMI FIM change will not be shown

Average FIM change by impairment



NOTE: Includes only completed episodes with valid FIM scores, where n<5 average FIM change will not be shown

Casemix-adjusted relative mean FIM change by impairment



NOTE: Includes only completed episodes with valid FIM scores, where n<5 CARMI FIM change will not be shown

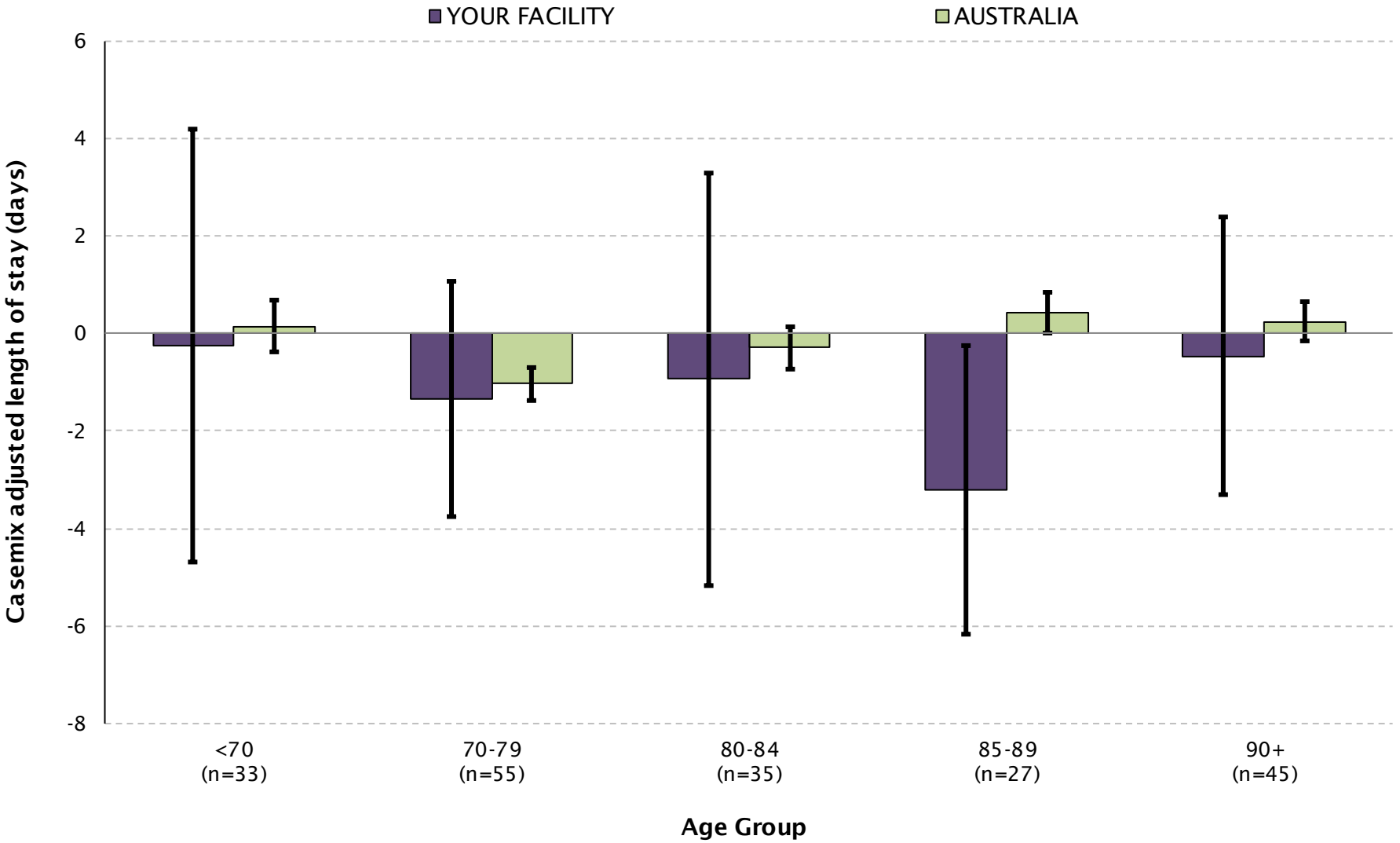
Casemix-adjusted relative mean and average length of stay and FIM change by AN-SNAP class and impairment

	YOUR FACILITY								AUSTRALIA			
	CARMI (95%CI)				Average (95%CI)				Average (95%CI)			
AN-SNAP class V4	LOS		FIM change		LOS		FIM change		LOS		FIM change	
4AH1 (motor 49-91, cognition 33-35)	-1.5	(-3.9 – 0.9)	0.3	(-2.0 – 2.6)	14.2	(11.8 – 16.6)	17.7	(15.4 – 20.1)	16.0	(15.6 – 16.3)	17.6	(17.4 – 17.8)
4AH2 (motor 49-91, cognition 5-32)	1.2	(-1.6 – 4.0)	1.6	(-0.8 – 4.0)	17.9	(15.1 – 20.7)	20.4	(17.9 – 22.9)	17.5	(17.2 – 17.8)	19.8	(19.5 – 20.1)
4AH3 (motor 38-48)	-1.9	(-5.0 – 1.2)	0.7	(-2.9 – 4.3)	19.8	(16.5 – 23.2)	27.0	(23.2 – 30.8)	23.5	(23.0 – 23.9)	27.6	(27.2 – 28.1)
4AH4 (motor 19-37)	-2.3	(-5.7 – 1.0)	3.6	(-0.6 – 7.7)	24.3	(20.9 – 27.8)	34.3	(30.2 – 38.4)	28.0	(27.4 – 28.5)	31.7	(31.1 – 32.3)
4AZ3 (motor 13-18, Age ≥ 65)	—		—		—		—		28.6	(26.6 – 30.6)	25.2	(22.9 – 27.4)
4AZ4 (motor 13-18, Age ≤ 64)	—		—		—		—		45.0	(33.1 – 57.0)	29.3	(21.6 – 36.9)
All Fracture AN-SNAP classes	**-1.1**	**(-2.6 – 0.3)**	**1.5**	**(-0.1 – 3.0)**	**18.6**	**(17.1 – 20.2)**	**23.9**	**(22.1 – 25.7)**	**20.3**	**(20.1 – 20.5)**	**22.9**	**(22.7 – 23.1)**

	YOUR FACILITY								AUSTRALIA			
	CARMI (95%CI)				Average (95%CI)				Average (95%CI)			
Impairment	LOS		FIM change		LOS		FIM change		LOS		FIM change	
8.111 Fracture of hip, unilateral	-0.9	(-2.9 – 1.2)	3.9	(1.5 – 6.2)	19.5	(17.3 – 21.7)	26.7	(23.9 – 29.4)	20.3	(20.0 – 20.6)	23.8	(23.5 – 24.1)
8.112 Fracture of hip, bilateral	—		—		—		—		22.4	(19.6 – 25.1)	22.2	(19.6 – 24.7)
8.12 Fracture of shaft of femur	-3.5	(-9.5 – 2.4)	1.6	(-8.6 – 11.8)	18.9	(13.0 – 24.8)	27.1	(16.8 – 37.4)	21.9	(20.9 – 22.9)	24.2	(23.3 – 25.2)
8.13 Fracture of pelvis	-2.1	(-5.8 – 1.6)	2.2	(-3.8 – 8.2)	16.9	(12.5 – 21.4)	24.0	(16.0 – 32.0)	19.7	(19.2 – 20.2)	23.5	(22.9 – 24.2)
8.141 Fracture of knee	-9.0	(-12.6 – -5.3)	2.2	(-2.7 – 7.2)	9.4	(6.1 – 12.7)	22.8	(15.4 – 30.2)	18.9	(17.8 – 20.0)	21.3	(20.4 – 22.2)
8.142 Fracture of leg, ankle, foot	-1.8	(-8.5 – 4.8)	-4.7	(-9.8 – 0.5)	17.8	(11.5 – 24.1)	17.6	(13.0 – 22.3)	21.2	(20.4 – 22.1)	20.5	(20.0 – 21.1)
8.15 Fracture of upper limb	-2.5	(-9.1 – 4.2)	-4.9	(-10.6 – 0.7)	16.3	(9.6 – 22.9)	17.1	(11.8 – 22.3)	19.1	(18.5 – 19.7)	20.8	(20.3 – 21.4)
8.16 Fracture of spine	1.0	(-3.5 – 5.6)	0.6	(-3.9 – 5.0)	20.2	(15.0 – 25.4)	22.3	(16.9 – 27.7)	19.2	(18.5 – 19.9)	20.9	(20.3 – 21.6)
8.17 Fracture of multiple sites	1.0	(-5.0 – 7.0)	5.4	(1.5 – 9.3)	20.6	(14.4 – 26.8)	27.9	(22.7 – 33.1)	23.2	(22.4 – 24.0)	25.9	(25.2 – 26.5)
8.19 Other orthopaedic fracture	0.1	(-5.8 – 6.0)	-2.2	(-6.7 – 2.3)	18.8	(12.3 – 25.2)	19.2	(14.1 – 24.3)	17.9	(17.2 – 18.5)	20.7	(20.1 – 21.4)
All Orthopaedic Fractures	**-1.1**	**(-2.6 – 0.3)**	**1.5**	**(-0.1 – 3.0)**	**18.6**	**(17.1 – 20.2)**	**23.9**	**(22.1 – 25.7)**	**20.3**	**(20.1 – 20.5)**	**22.9**	**(22.7 – 23.1)**

NOTE: Includes only completed episodes with valid FIM scores and LOS, where n<5 no values provided

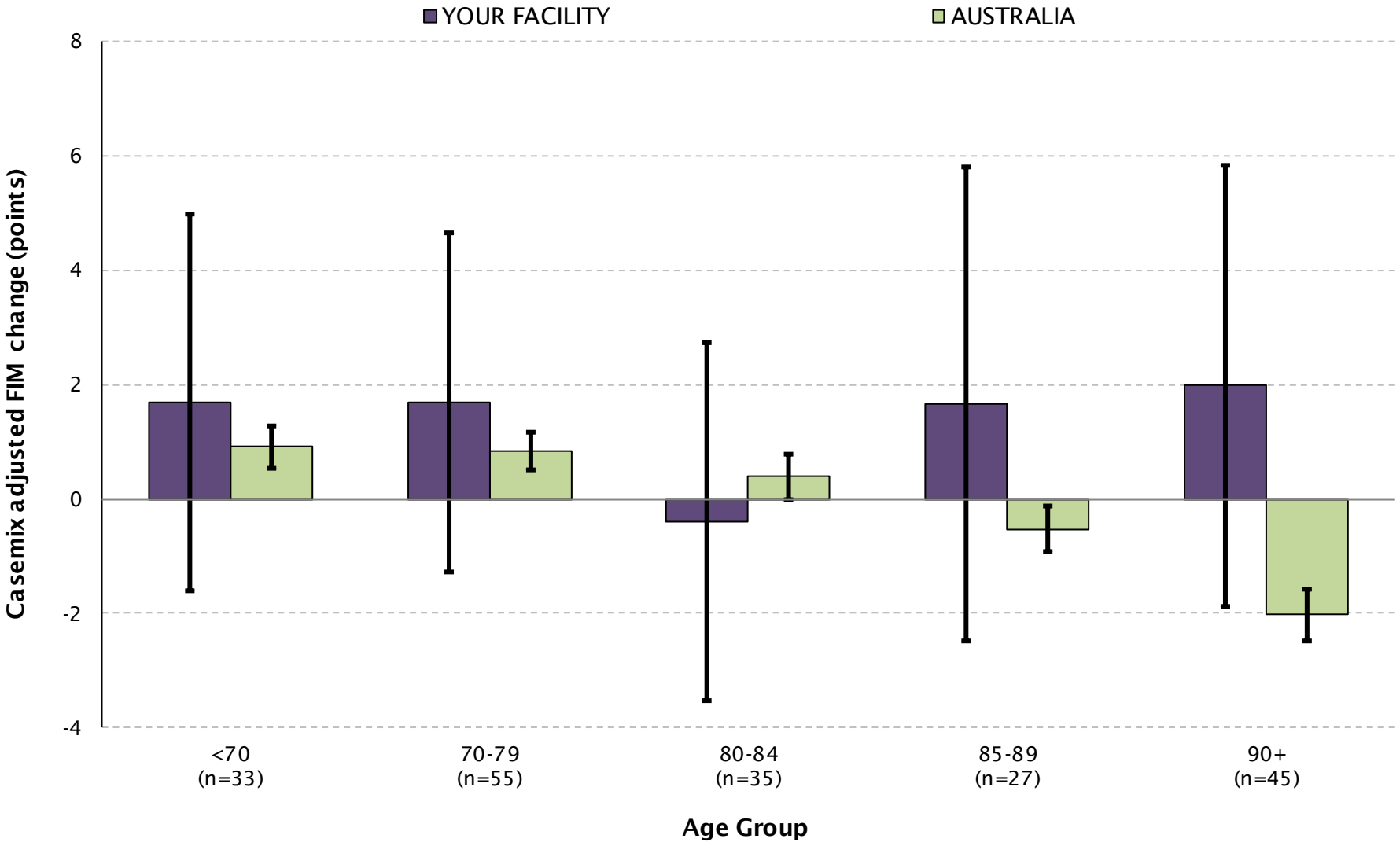
Casemix-adjusted relative mean length of stay by age group*



NOTE: Includes only completed episodes with valid LOS and age, where n<5 CARMI LOS will not be shown

* Approximately 20% total population per age group

Casemix-adjusted relative mean FIM change by age group*



NOTE: Includes only completed episodes with valid FIM scores and age, where n<5 CARMI FIM change will not be shown

* Approximately 20% total population per age group

Average and casemix-adjusted relative mean length of stay and FIM change by age group*

	YOUR FACILITY				AUSTRALIA			
Age group	LOS (95%CI)		FIM change (95%CI)		LOS (95%CI)		FIM change (95%CI)	
<70	17.9	(13.4 – 22.4)	22.2	(18.2 – 26.1)	19.8	(19.3 – 20.4)	22.7	(22.3 – 23.2)
70-79	17.9	(15.2 – 20.6)	23.6	(20.1 – 27.0)	18.7	(18.3 – 19.1)	23.0	(22.6 – 23.3)
80-84	18.5	(14.4 – 22.7)	22.0	(18.6 – 25.4)	20.0	(19.6 – 20.5)	23.1	(22.7 – 23.6)
85-89	17.8	(14.2 – 21.3)	25.4	(19.9 – 31.0)	21.4	(21.0 – 21.9)	23.0	(22.6 – 23.4)
90+	20.8	(17.8 – 23.8)	25.6	(21.6 – 29.7)	22.3	(21.8 – 22.7)	22.5	(22.0 – 23.0)

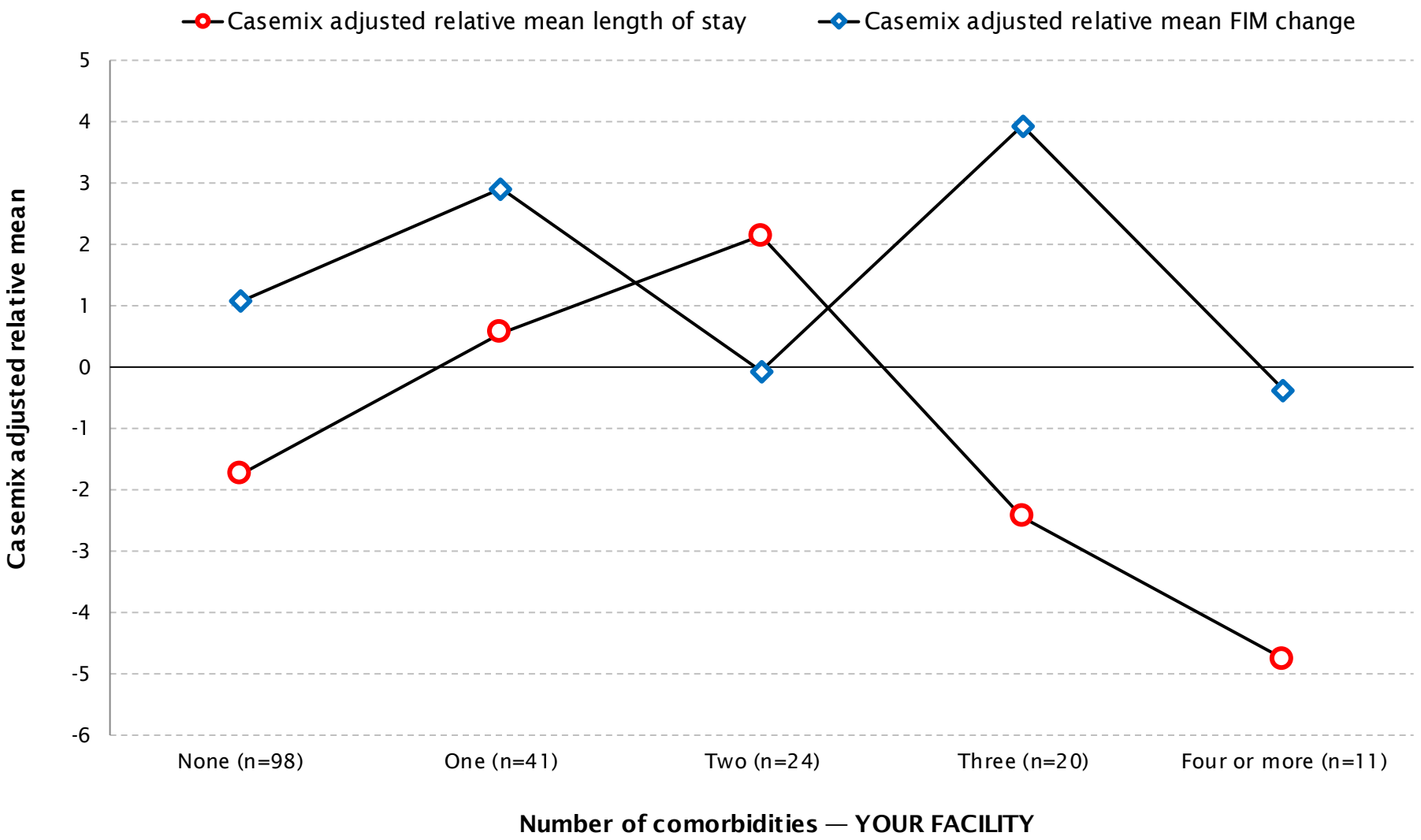
	YOUR FACILITY				AUSTRALIA			
Age group	CARMI LOS (95%CI)		CARMI FIM change (95%CI)		CARMI LOS (95%CI)		CARMI FIM change (95%CI)	
<70	-0.2	(-4.7 – 4.2)	1.7	(-1.6 – 5.0)	0.2	(-0.4 – 0.7)	0.9	(0.5 – 1.3)
70-79	-1.3	(-3.8 – 1.1)	1.7	(-1.3 – 4.7)	-1.0	(-1.4 – -0.7)	0.8	(0.5 – 1.2)
80-84	-0.9	(-5.2 – 3.3)	-0.4	(-3.5 – 2.7)	-0.3	(-0.7 – 0.2)	0.4	(0.0 – 0.8)
85-89	-3.2	(-6.2 – -0.3)	1.7	(-2.5 – 5.8)	0.4	(0.0 – 0.9)	-0.5	(-0.9 – -0.1)
90+	-0.5	(-3.3 – 2.4)	2.0	(-1.9 – 5.8)	0.3	(-0.2 – 0.7)	-2.0	(-2.5 – -1.6)

NOTE: Includes only completed episodes with valid FIM scores and LOS and age, where n<5 no values provided

*Approximately 20% national population per age group

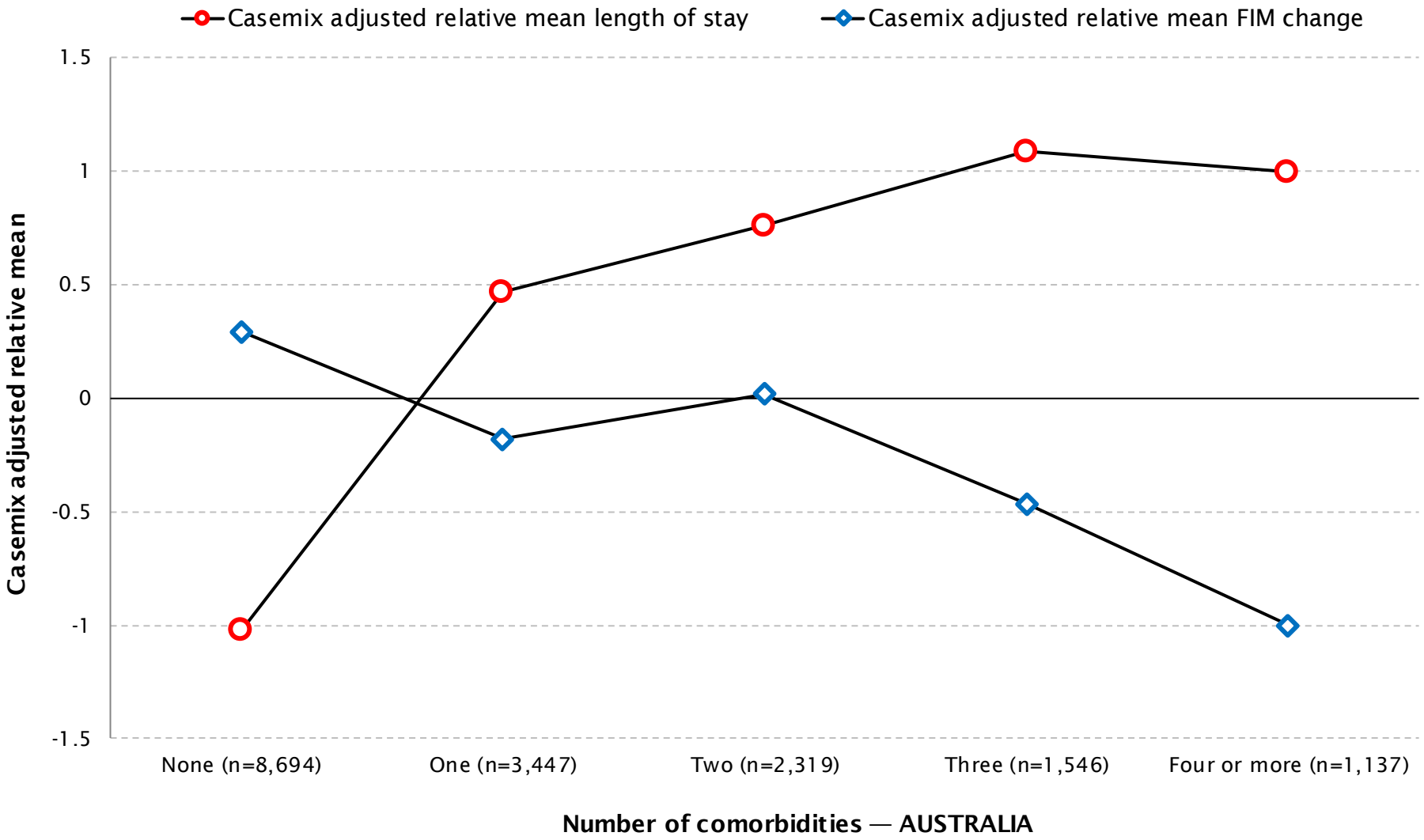
Explanatory data

Casemix-adjusted relative mean length of stay and FIM change by number of comorbidities



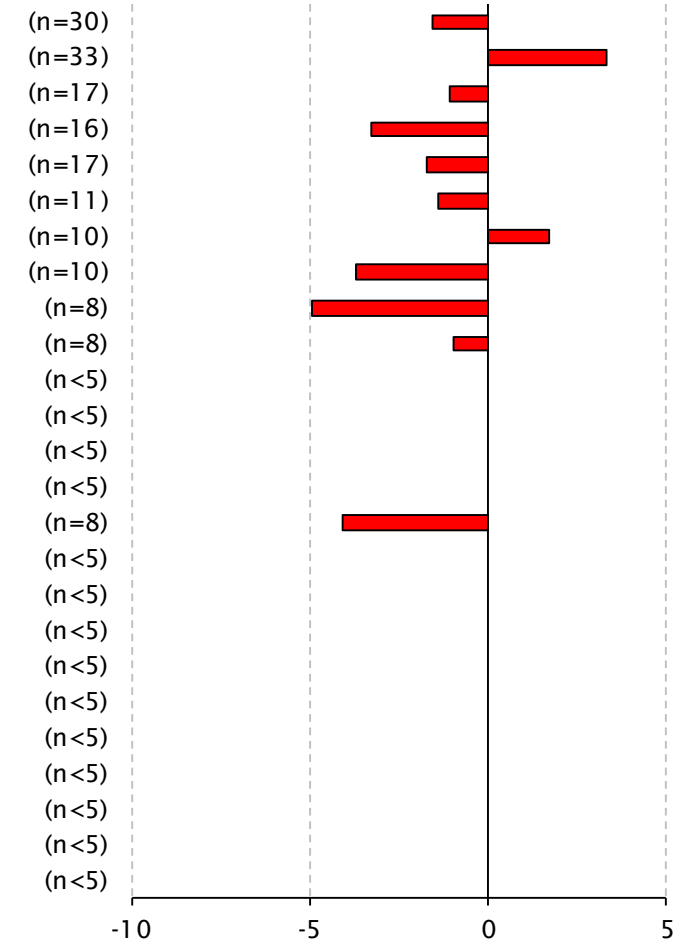
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

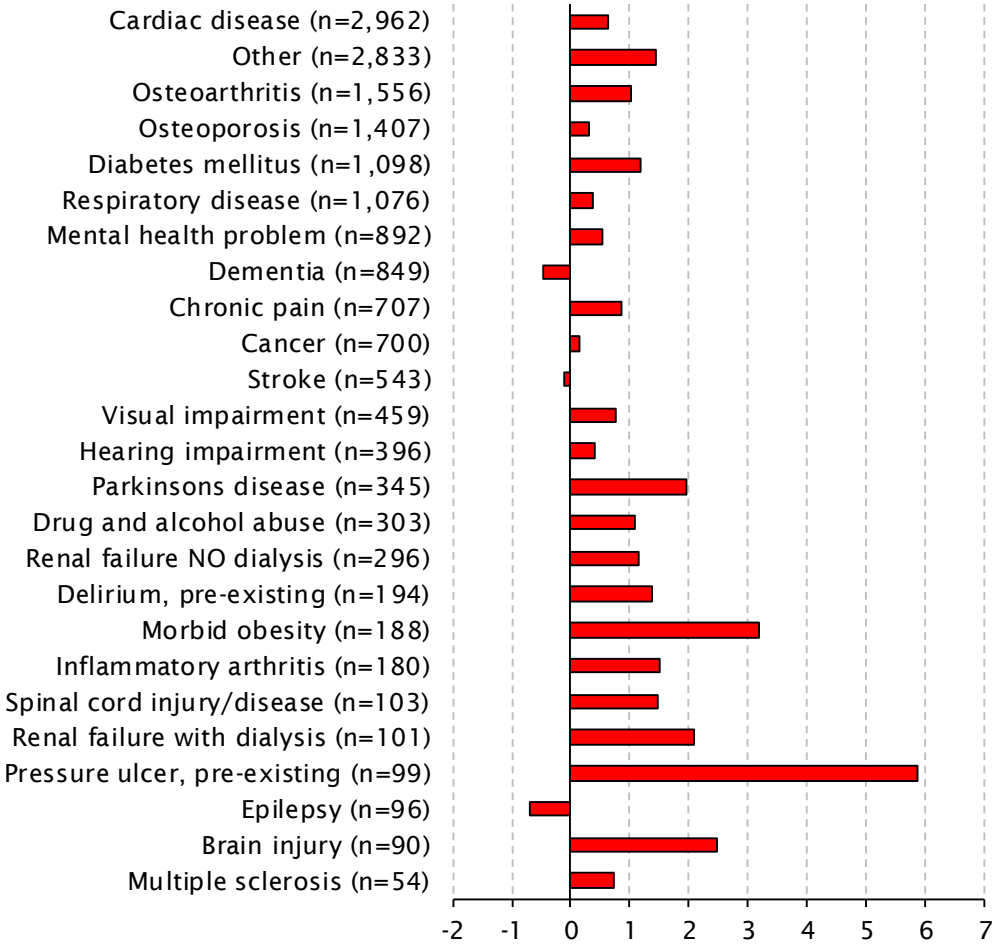
Casemix-adjusted relative mean length of stay and FIM change by number of comorbidities



NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

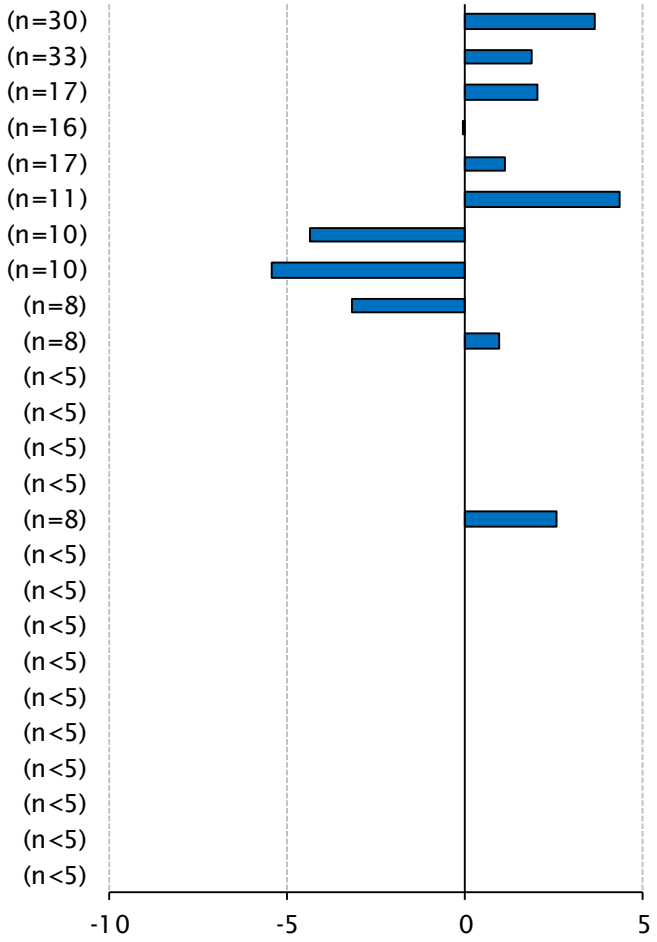
Casemix-adjusted relative mean length of stay by type of comorbidity

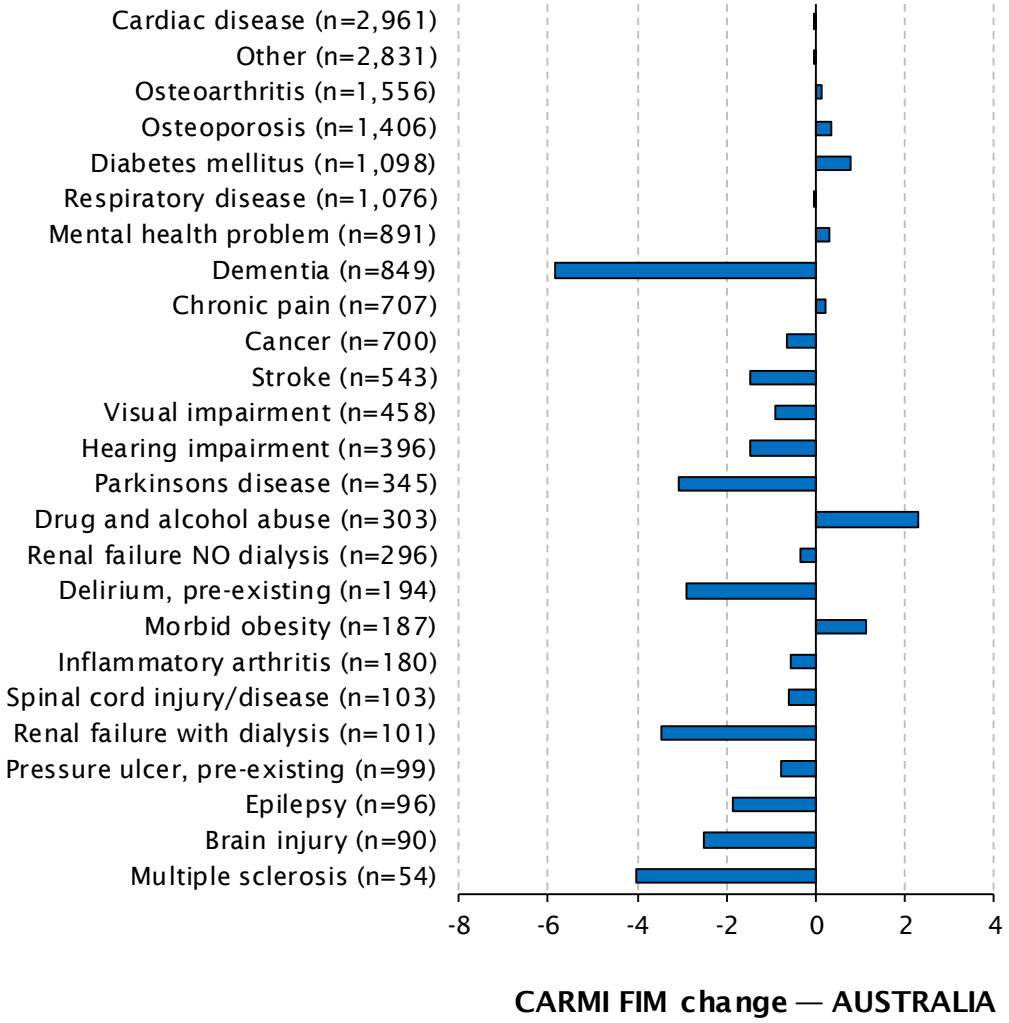




NOTE: Includes only completed episodes with valid LOS
* No data included where number of episodes <5

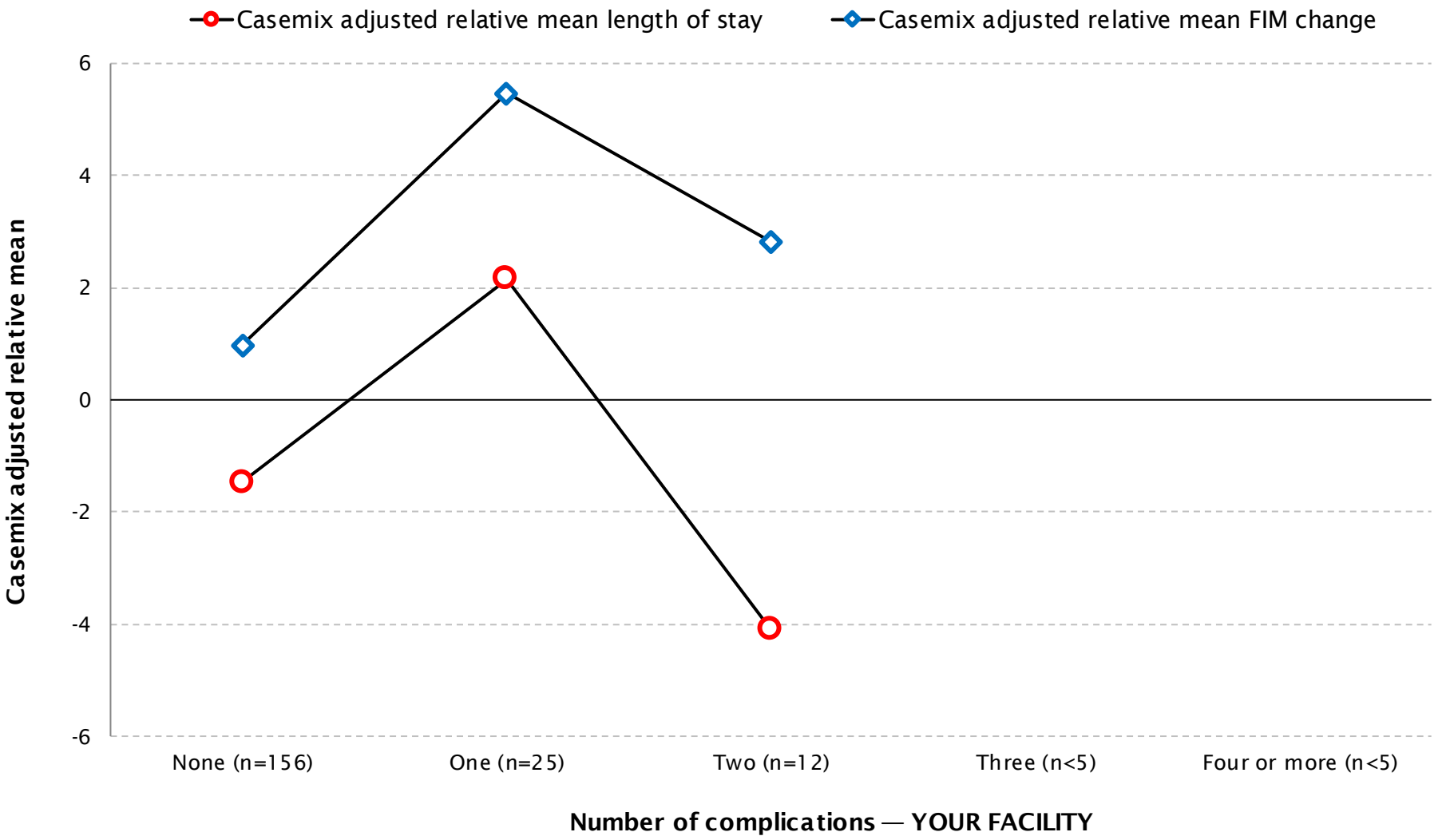
Casemix-adjusted relative mean FIM change by type of comorbidity





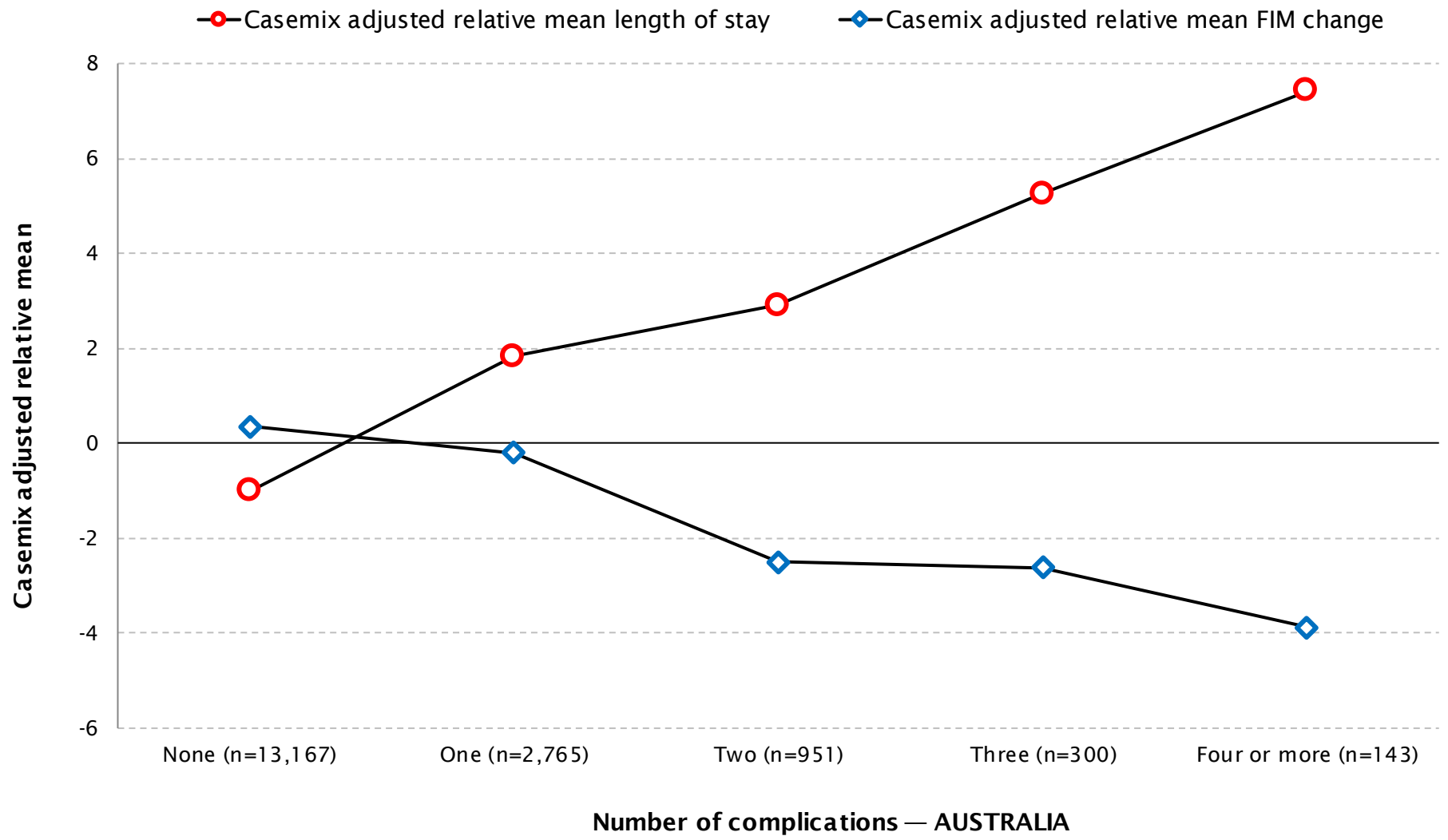
NOTE: Includes only completed episodes with valid FIM scores
* No data included where number of episodes <5

Casemix-adjusted relative mean length of stay and FIM change by number of complications



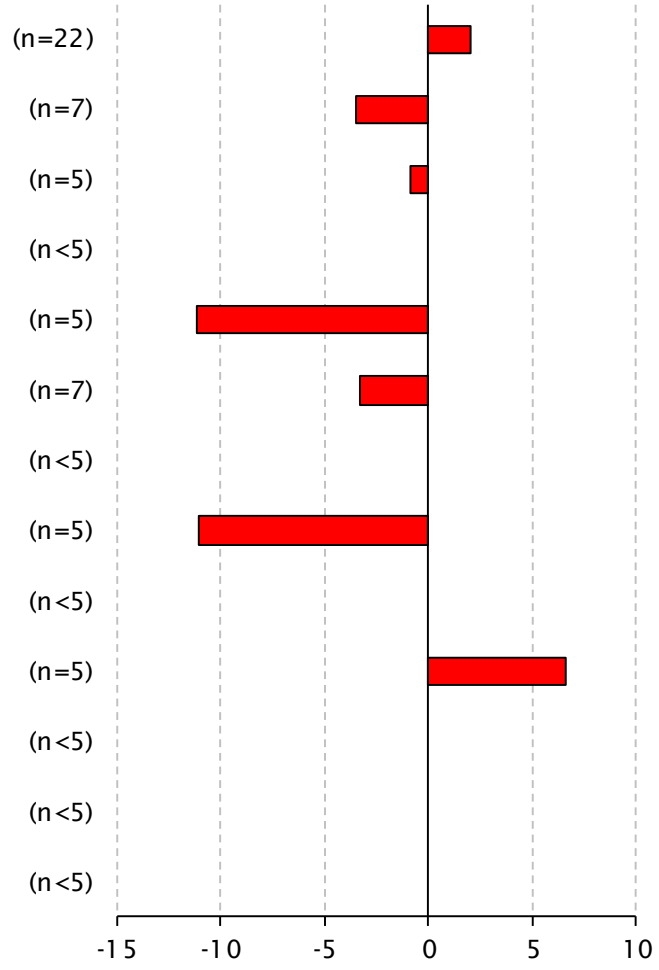
NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Casemix-adjusted relative mean length of stay and FIM change by number of complications

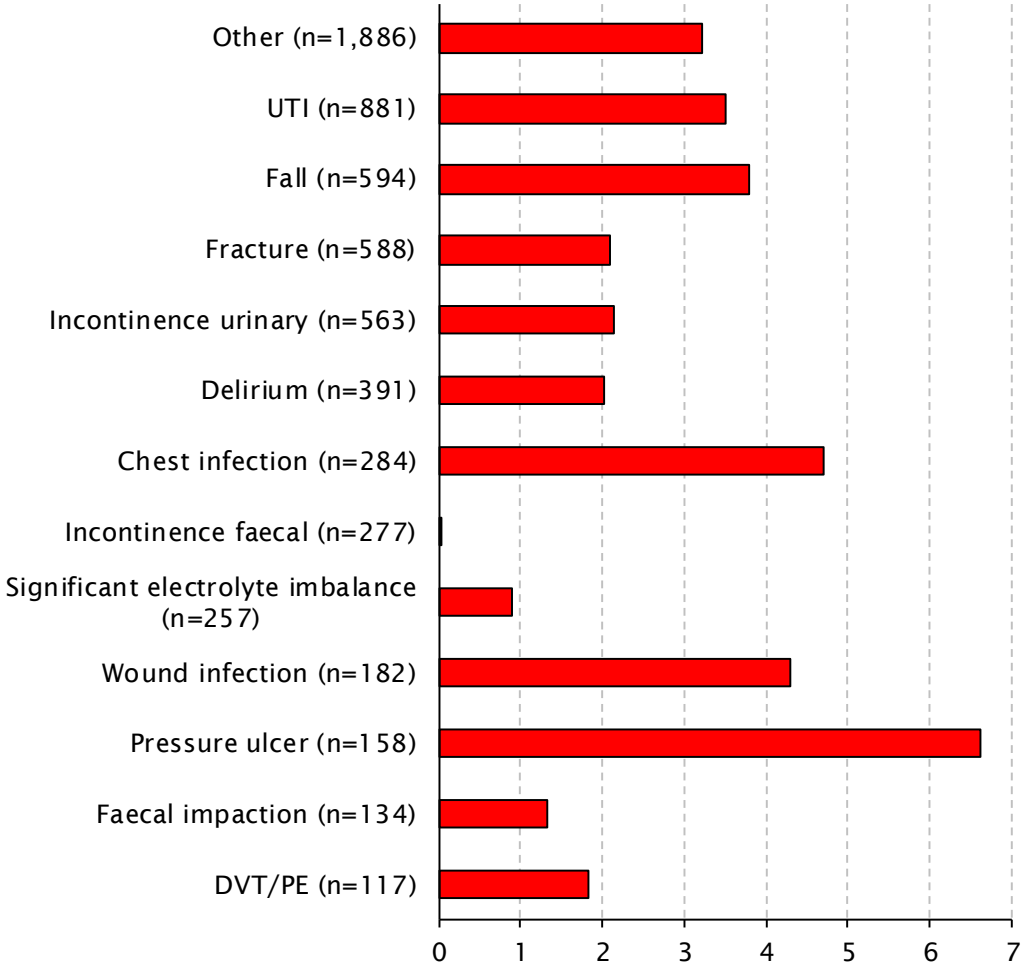


NOTE: Includes only completed episodes with valid FIM scores and LOS; where n<5 the casemix-adjusted relative mean will not be shown

Casemix-adjusted relative mean length of stay by type of complication



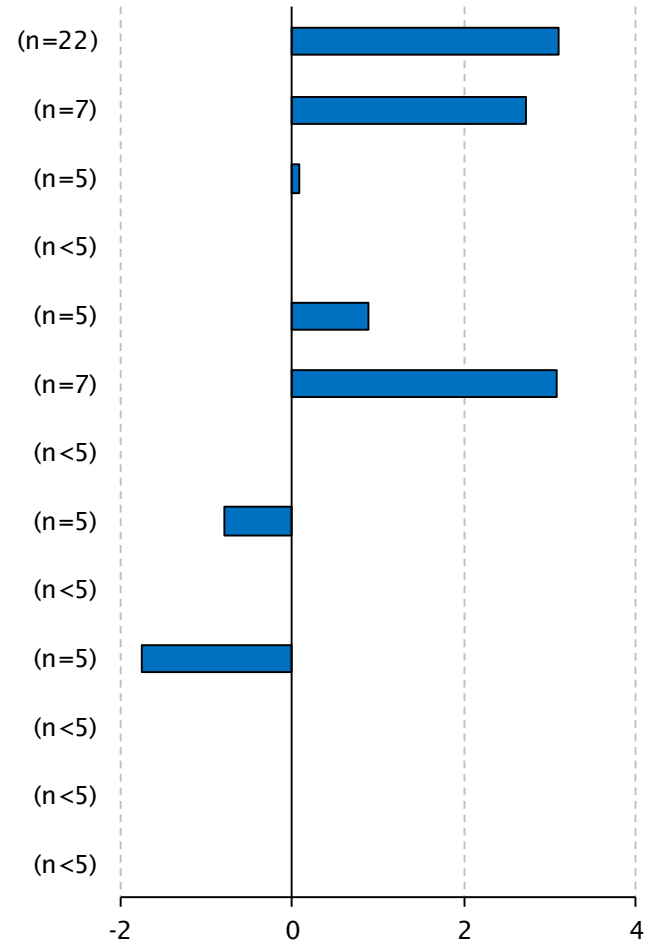
CARMI LOS — YOUR FACILITY



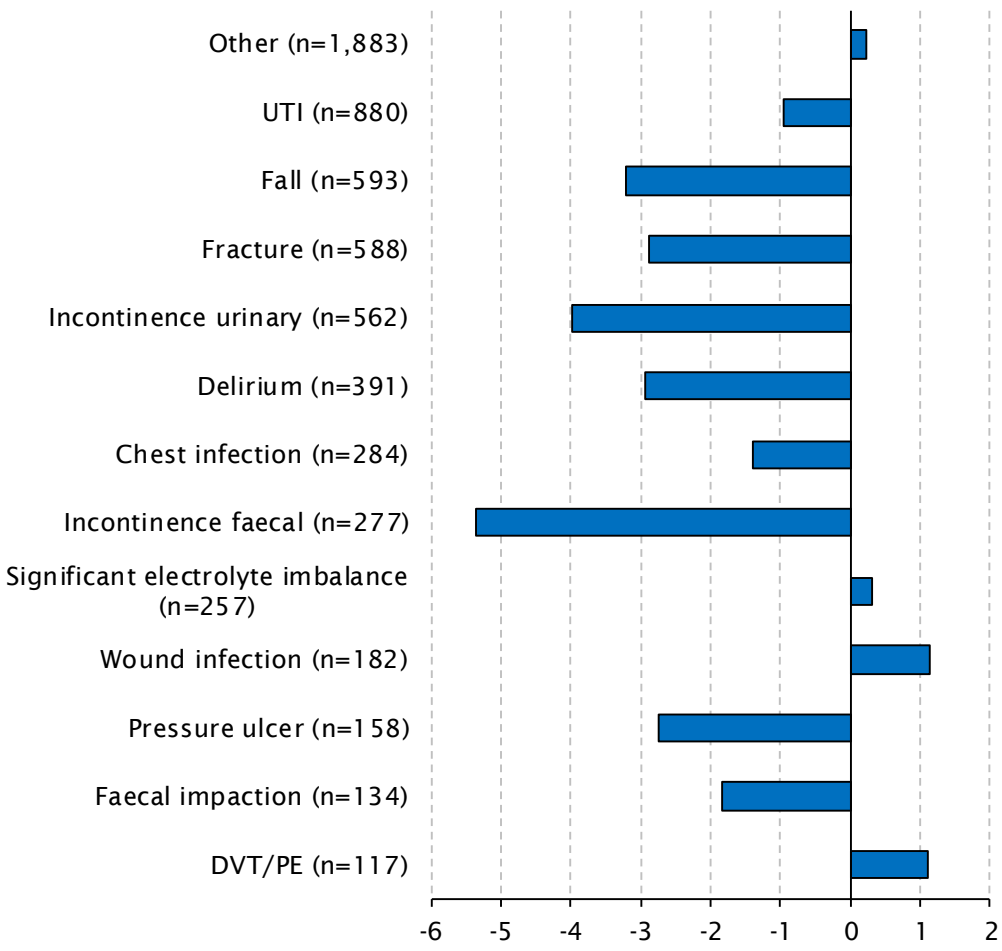
CARMI LOS — AUSTRALIA

NOTE: Includes only completed episodes with valid LOS
* No data included where number of episodes <5

Casemix-adjusted relative mean FIM change by type of complication



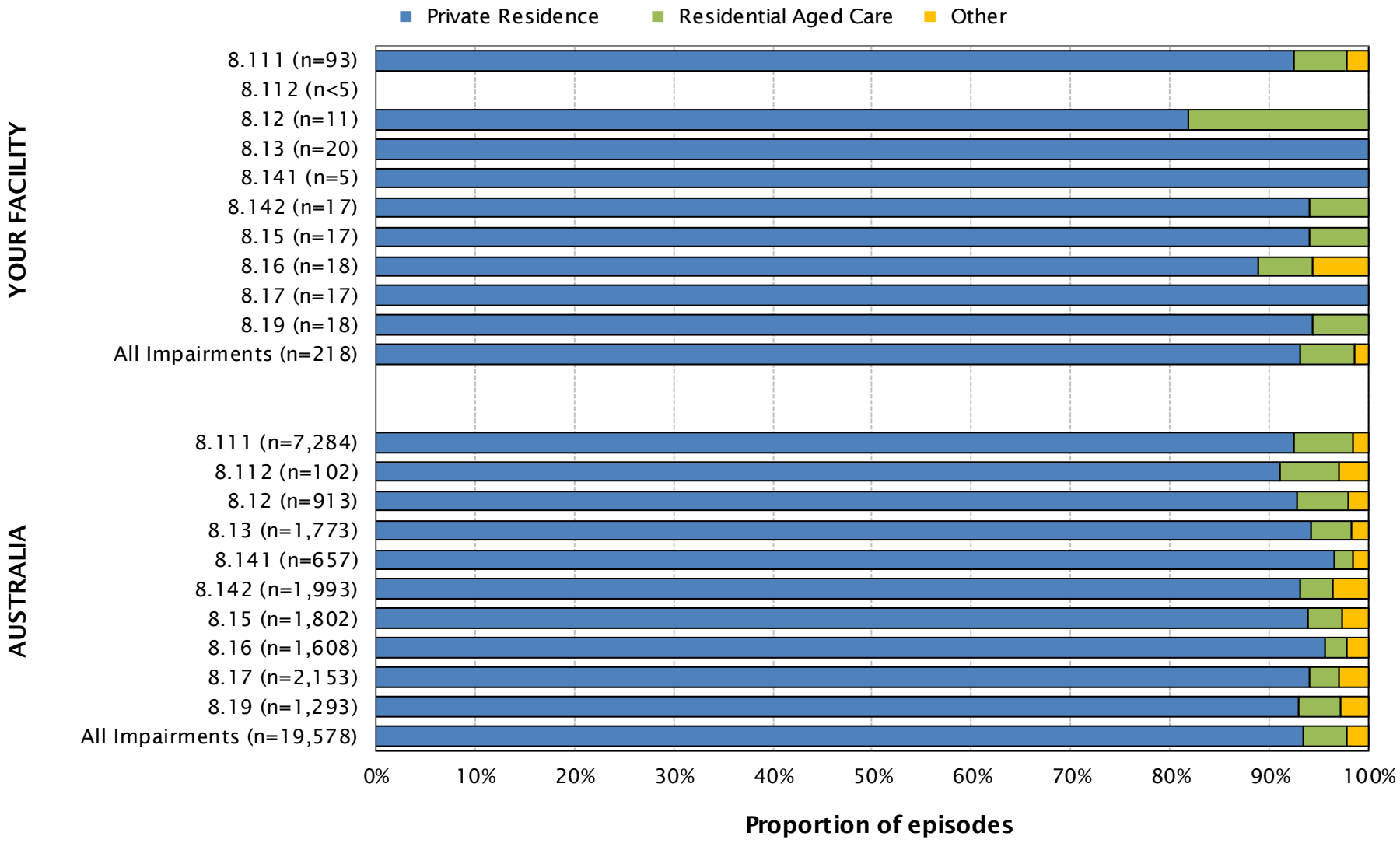
CARMI FIM change — YOUR FACILITY



CARMI FIM change — AUSTRALIA

NOTE: Includes only completed episodes with valid FIM scores
* No data included where number of episodes <5

Type of accommodation prior to impairment

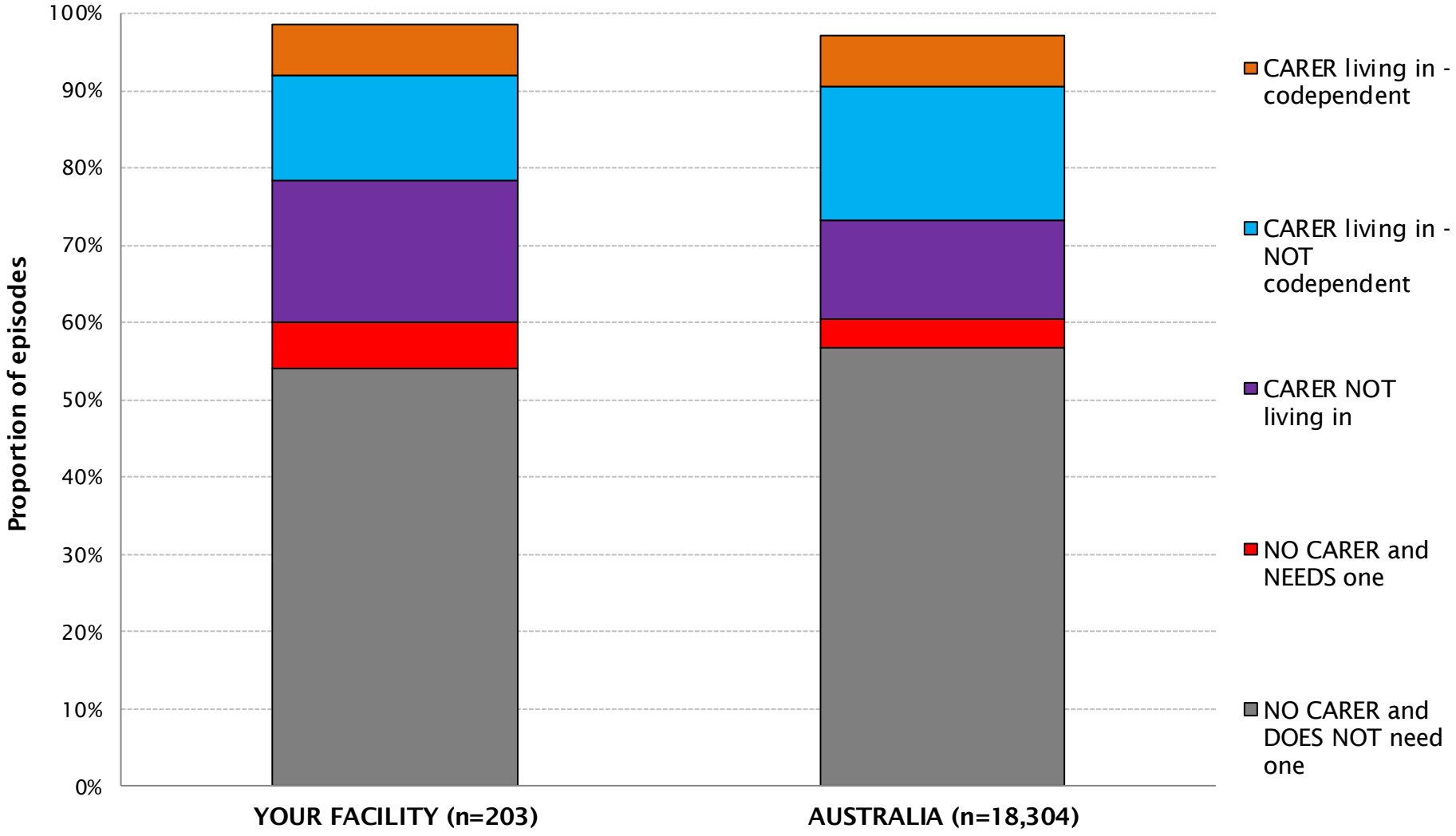


Type of accommodation prior to impairment

YOUR FACILITY — N (%)										
Impairment	Private residence		Residential Aged Care		Other		Unknown	All episodes	
8.111 Fracture of hip, unilateral	86	(91.5)	5	(5.3)	2	(2.1)	1	94	(100.0)
8.112 Fracture of hip, bilateral	2	(100.0)	0	(0.0)	0	(0.0)	0	2	(100.0)
8.12 Fracture of shaft of femur	9	(81.8)	2	(18.2)	0	(0.0)	0	11	(100.0)
8.13 Fracture of pelvis	20	(100.0)	0	(0.0)	0	(0.0)	0	20	(100.0)
8.141 Fracture of knee	4	(66.7)	1	(16.7)	0	(0.0)	1	6	(100.0)
8.142 Fracture of leg, ankle, foot	16	(94.1)	1	(5.9)	0	(0.0)	0	17	(100.0)
8.15 Fracture of upper limb	16	(94.1)	1	(5.9)	0	(0.0)	0	17	(100.0)
8.16 Fracture of spine	16	(88.9)	1	(5.6)	1	(5.6)	0	18	(100.0)
8.17 Fracture of multiple sites	17	(100.0)	0	(0.0)	0	(0.0)	0	17	(100.0)
8.19 Other orthopaedic fracture	17	(94.4)	1	(5.6)	0	(0.0)	0	18	(100.0)
All Orthopaedic Fractures	**203**	**(92.3)**	**12**	**(5.5)**	**3**	**(1.4)**	**2**	**220**	**(100.0)**

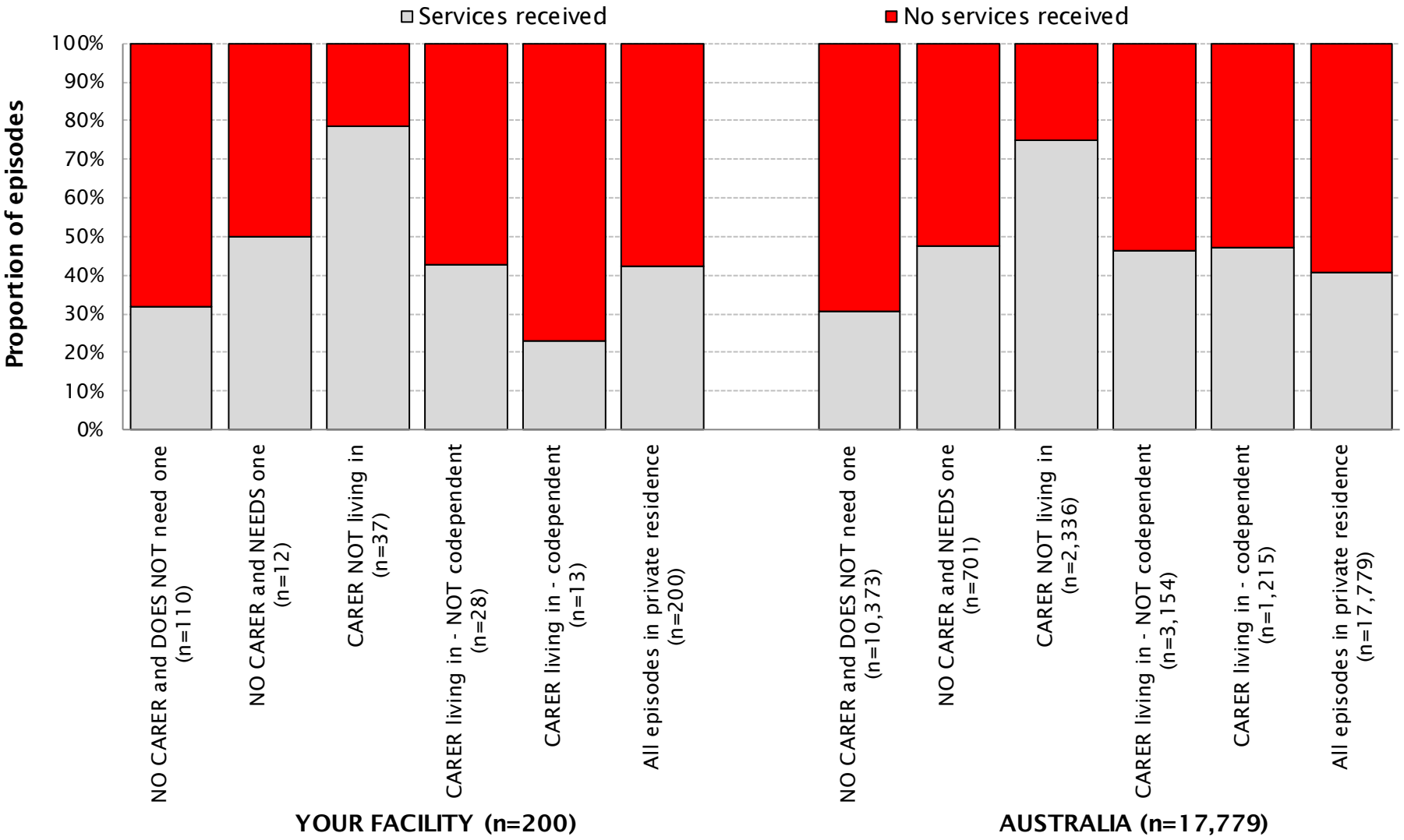
AUSTRALIA — N (%)										
Impairment	Private residence		Residential Aged Care		Other		Unknown	All episodes	
8.111 Fracture of hip, unilateral	6,738	(91.3)	435	(5.9)	111	(1.5)	96	7,380	(100.0)
8.112 Fracture of hip, bilateral	93	(91.2)	6	(5.9)	3	(2.9)	0	102	(100.0)
8.12 Fracture of shaft of femur	848	(92.2)	47	(5.1)	18	(2.0)	7	920	(100.0)
8.13 Fracture of pelvis	1,670	(93.0)	73	(4.1)	30	(1.7)	23	1,796	(100.0)
8.141 Fracture of knee	635	(95.8)	12	(1.8)	10	(1.5)	6	663	(100.0)
8.142 Fracture of leg, ankle, foot	1,858	(92.4)	65	(3.2)	70	(3.5)	18	2,011	(100.0)
8.15 Fracture of upper limb	1,693	(93.3)	62	(3.4)	47	(2.6)	13	1,815	(100.0)
8.16 Fracture of spine	1,539	(94.8)	35	(2.2)	34	(2.1)	16	1,624	(100.0)
8.17 Fracture of multiple sites	2,027	(93.7)	63	(2.9)	63	(2.9)	10	2,163	(100.0)
8.19 Other orthopaedic fracture	1,203	(91.4)	54	(4.1)	36	(2.7)	23	1,316	(100.0)
All Orthopaedic Fractures	**18,304**	**(92.5)**	**852**	**(4.3)**	**422**	**(2.1)**	**212**	**19,790**	**(100.0)**

Carer status prior to impairment



NOTE: Includes only those episodes coming from private residence

Any services received prior to impairment by carer status



NOTE: Includes only those episodes coming from private residence and with known carer status and known services status.

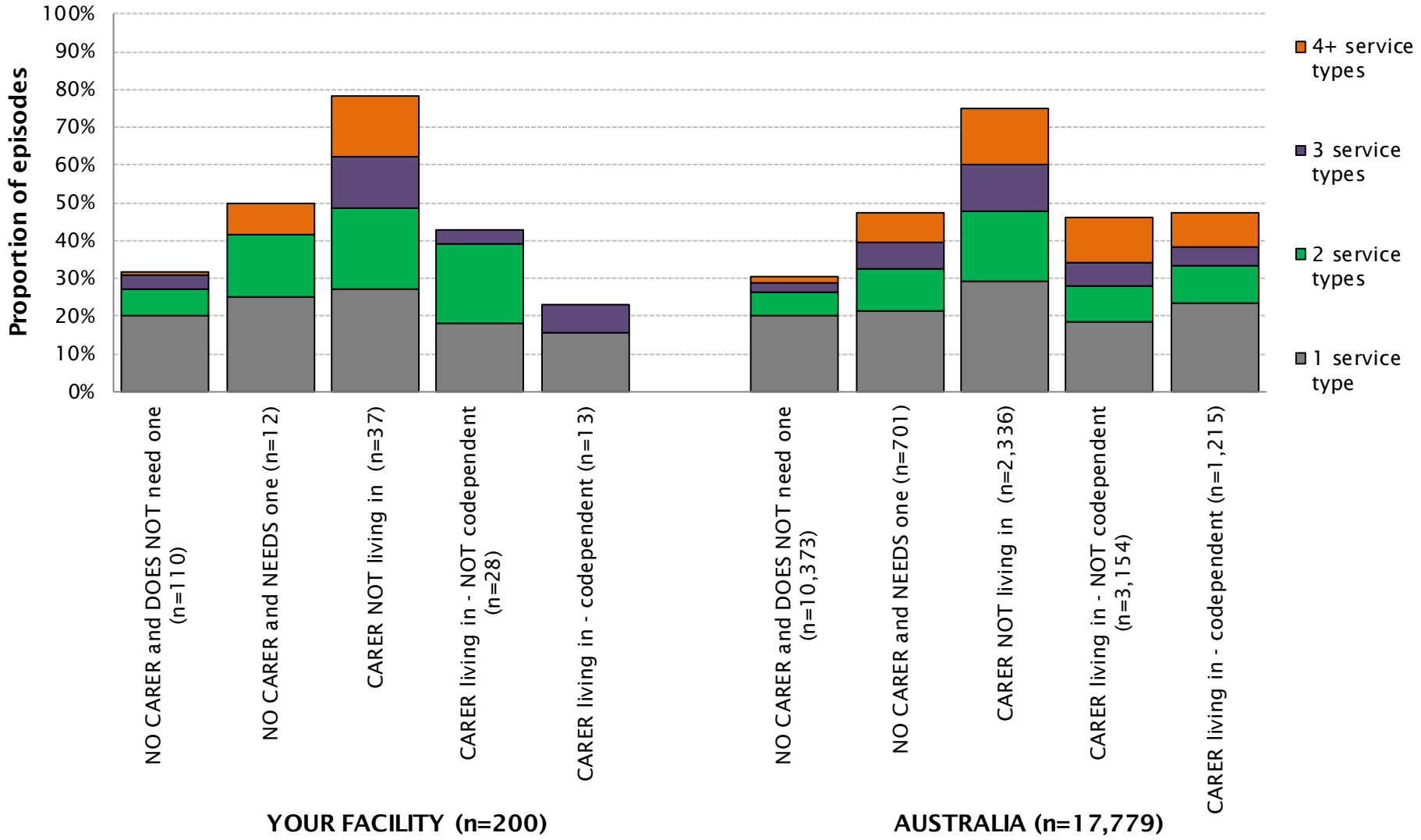
Carer status and any services received prior to impairment

	YOUR FACILITY		AUSTRALIA	
Carer status prior to this impairment	No.	%	No.	%
NO CARER and DOES NOT need one	110	55.0	10,379	58.4
NO CARER and NEEDS one	12	6.0	701	3.9
CARER NOT living in	37	18.5	2,336	13.1
CARER living in - NOT codependent	28	14.0	3,156	17.7
CARER living in - codependent	13	6.5	1,215	6.8
Missing	3		517	
All episodes in private residence	**203**	**100.0**	**18,304**	**100.0**

	Any services received prior to this impairment?			
	YOUR FACILITY		AUSTRALIA	
Carer status prior to this impairment	Yes (%)	No (%)	Yes (%)	No (%)
NO CARER and DOES NOT need one	31.8	68.2	30.4	69.6
NO CARER and NEEDS one	50.0	50.0	47.4	52.6
CARER NOT living in	78.4	21.6	74.8	25.2
CARER living in - NOT codependent	42.9	57.1	46.3	53.7
CARER living in - codependent	23.1	76.9	47.2	52.8
All episodes in private residence	**42.5**	**57.5**	**40.9**	**59.1**

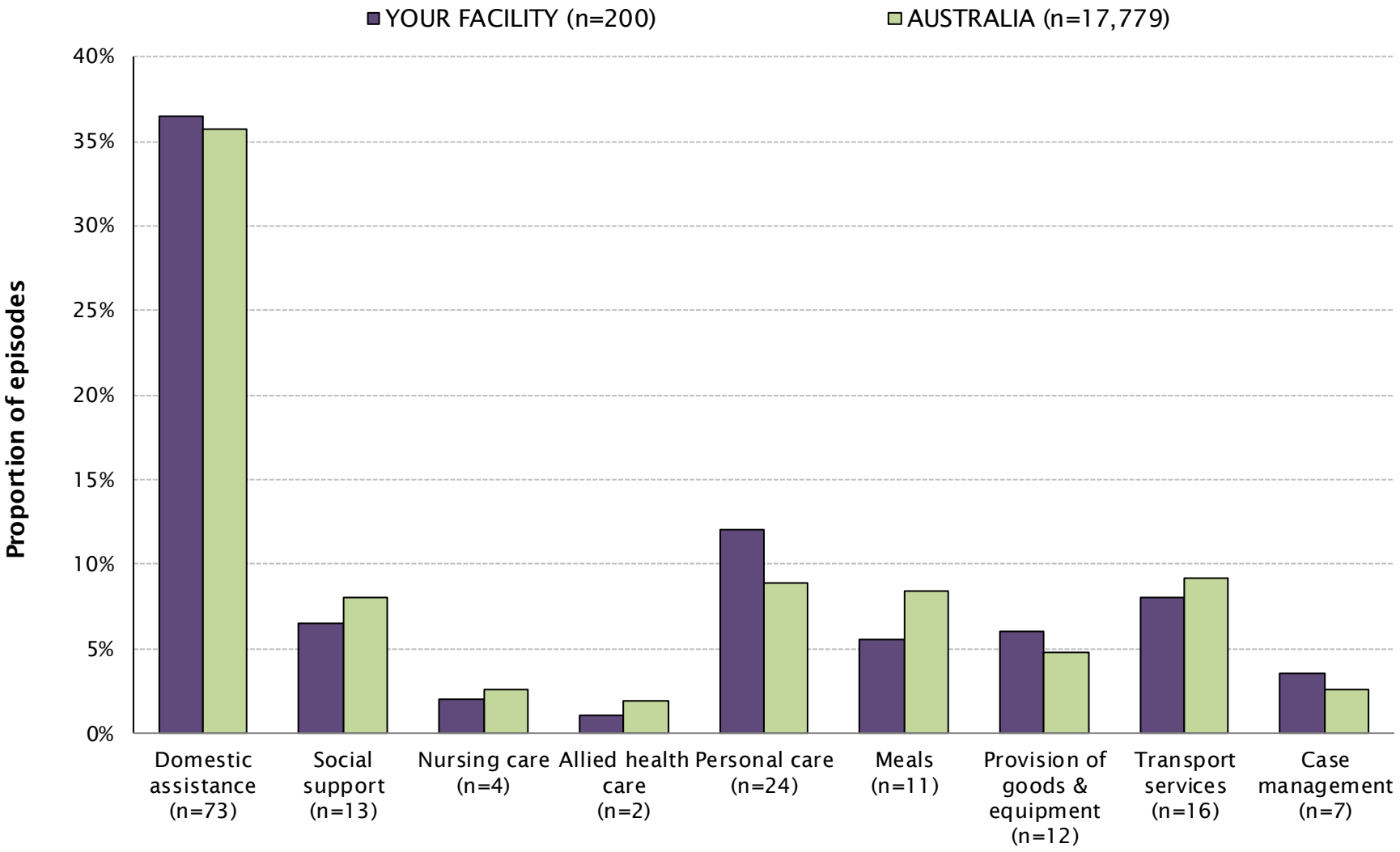
NOTE: Includes only those episodes coming from private residence and with known carer status.

Number of services received prior to impairment by carer status



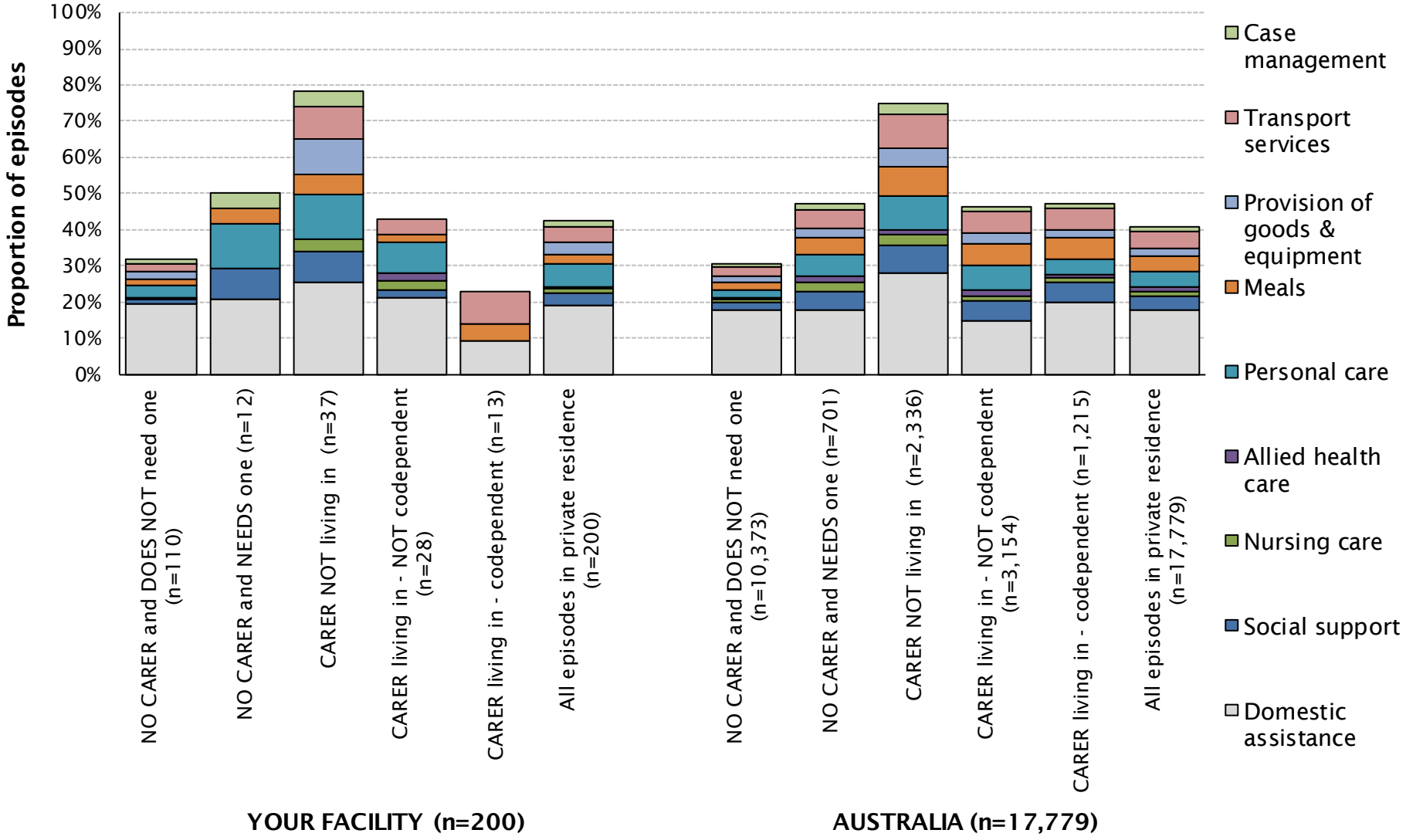
NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Type of services received prior to impairment



NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Type of services received prior to impairment by carer status



NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Number and type of services received prior to impairment by carer status

Services received prior to this impairment	Carer status prior to discharge - YOUR FACILITY					
	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
Number of episodes in private residence	110	12	37	28	13	**200**
Percent of episodes receiving:						
No services	68.2	50.0	21.6	57.1	76.9	**57.5**
1 service type	20.0	25.0	27.0	17.9	15.4	**21.0**
2 service types	7.3	16.7	21.6	21.4	0.0	**12.0**
3 service types	3.6	0.0	13.5	3.6	7.7	**5.5**
4 or more service types	0.9	8.3	16.2	0.0	0.0	**4.0**
Service Type received						
Domestic assistance	30.0	41.7	62.2	35.7	15.4	**36.5**
Social support	1.8	16.7	21.6	3.6	0.0	**6.5**
Nursing care	0.0	0.0	8.1	3.6	0.0	**2.0**
Allied health care	0.9	0.0	0.0	3.6	0.0	**1.0**
Personal care	5.5	25.0	29.7	14.3	0.0	**12.0**
Meals	2.7	8.3	13.5	3.6	7.7	**5.5**
Provision of goods & equipment	2.7	0.0	24.3	0.0	0.0	**6.0**
Transport services	3.6	0.0	21.6	7.1	15.4	**8.0**
Case management	1.8	8.3	10.8	0.0	0.0	**3.5**

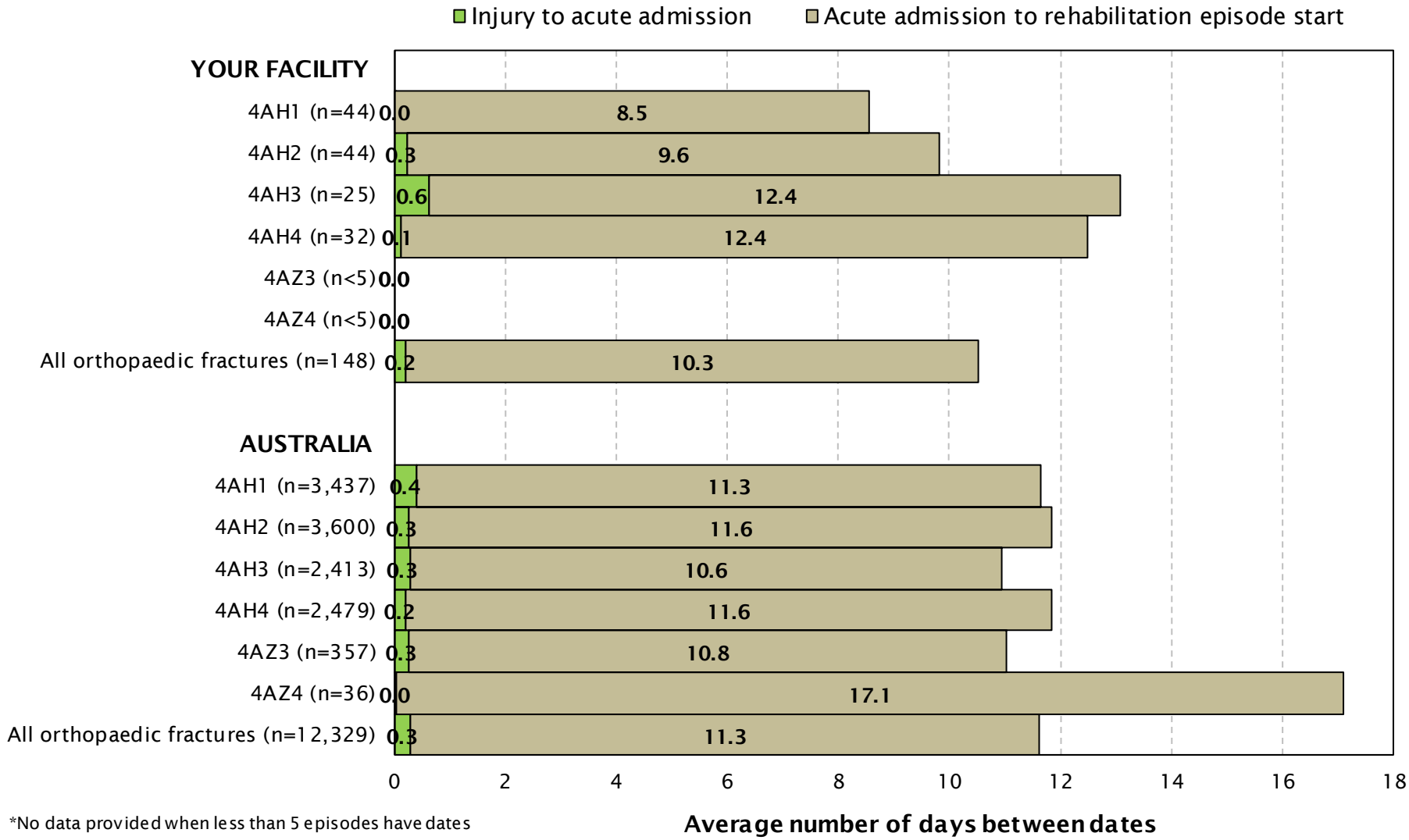
NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

Number and type of services received prior to impairment by carer status

	Carer status prior to discharge - AUSTRALIA					
Services received prior to this impairment	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
Number of episodes in private residence	10,373	701	2,336	3,154	1,215	**17,779**
Percent of episodes receiving:						
No services	69.6	52.6	25.2	53.7	52.8	**59.1**
1 service type	20.2	21.4	29.1	18.5	23.6	**21.4**
2 service types	6.0	11.1	18.7	9.4	9.9	**8.7**
3 service types	2.7	7.0	12.3	6.3	4.9	**4.9**
4 or more service types	1.5	7.8	14.8	12.0	8.9	**5.8**
Service Type received						
Domestic assistance	27.3	39.2	66.6	37.4	41.6	**35.7**
Social support	3.4	11.0	18.5	13.2	11.3	**8.0**
Nursing care	1.0	5.3	6.5	4.0	2.3	**2.5**
Allied health care	1.0	3.6	3.6	3.6	1.6	**1.9**
Personal care	3.1	13.0	21.8	17.3	9.3	**8.9**
Meals	3.4	10.8	19.2	15.2	11.7	**8.4**
Provision of goods & equipment	2.5	5.7	11.8	6.8	4.9	**4.8**
Transport services	4.0	10.7	22.3	15.1	11.9	**9.2**
Case management	1.1	4.1	7.3	3.3	2.9	**2.6**

NOTE: Includes only those episodes coming from private residence and with known carer status and known services status

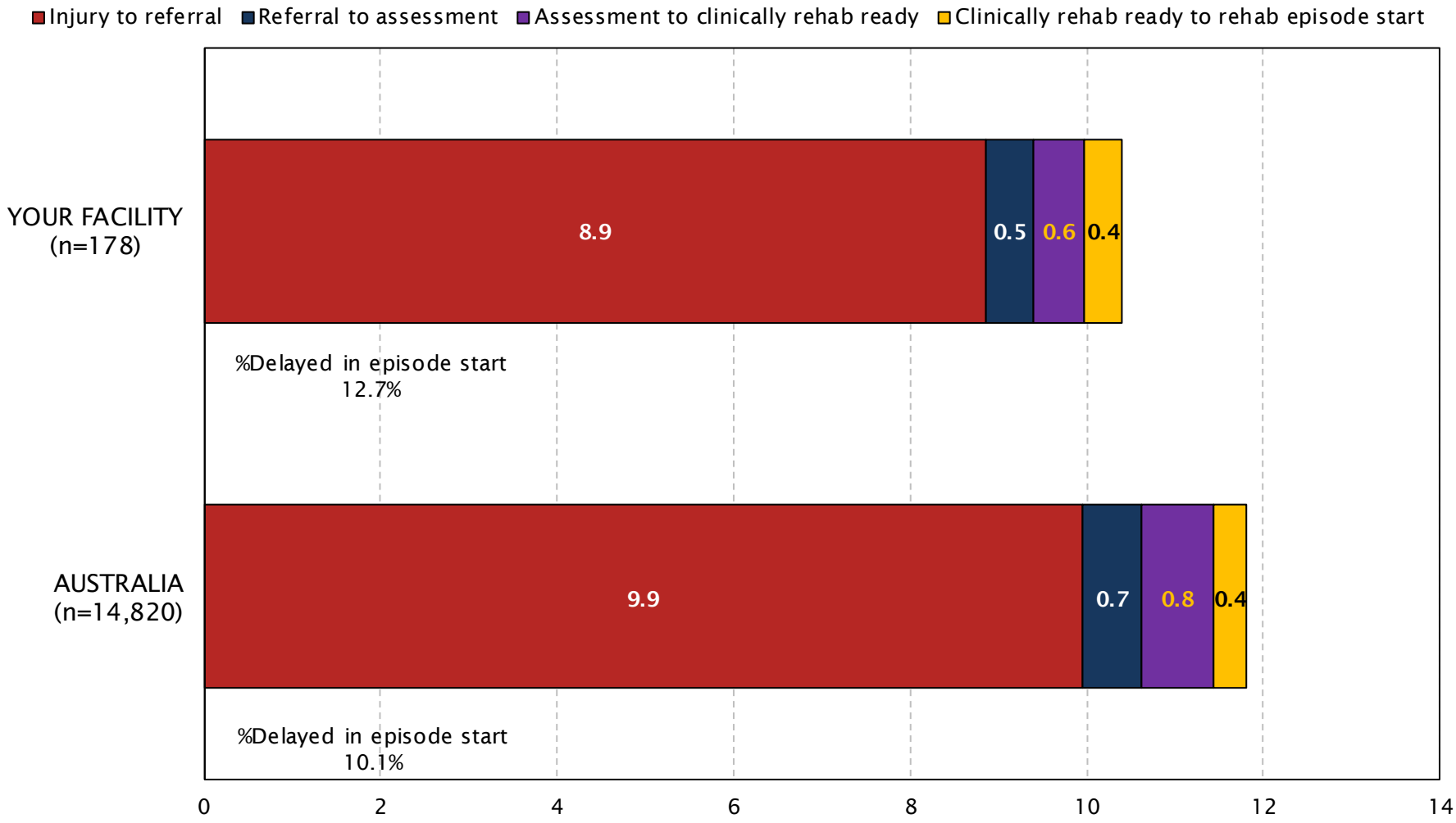
Days from injury to episode start with an acute admission by AN-SNAP class



*No data provided when less than 5 episodes have dates

NOTE: Includes first admissions where all dates have been entered only

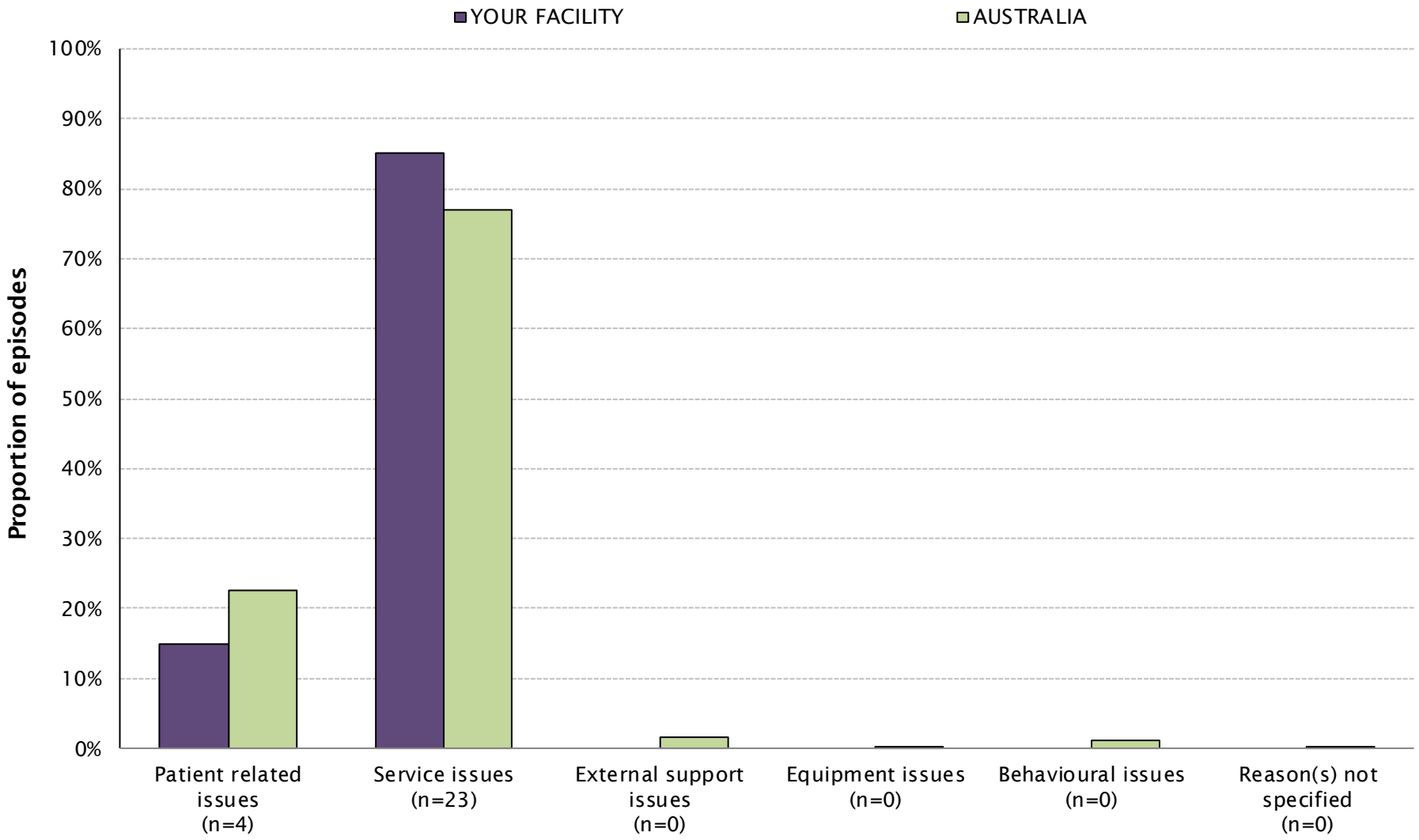
Days from referral to rehabilitation episode start



*No data provided when less than 5 episodes have dates

NOTE: Includes first admissions where all dates have been entered only

Type of delay in episode start

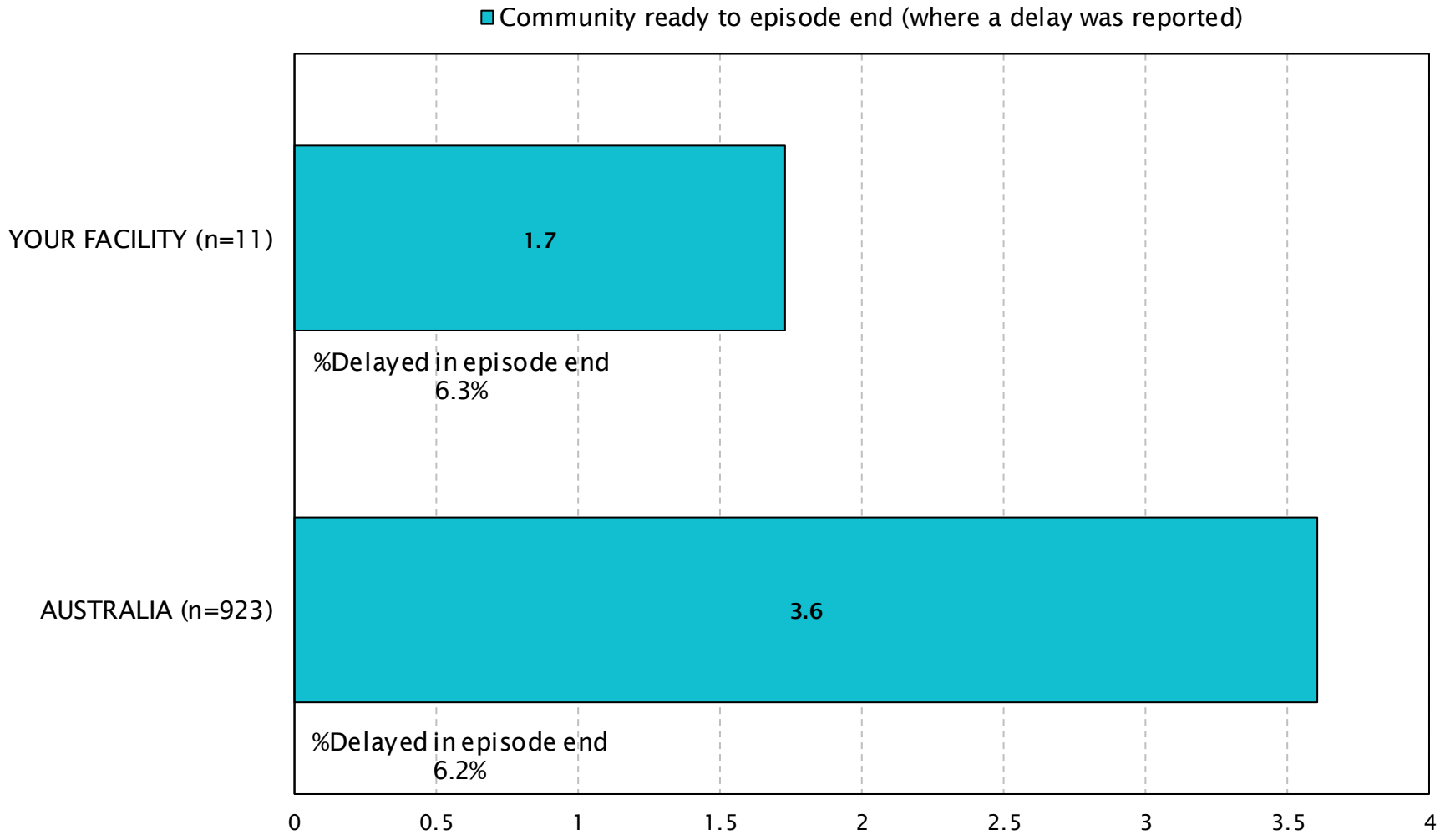


Delays in episode start

	YOUR FACILITY		AUSTRALIA	
Delay in episode start	**No.**	**%**	**No.**	**%**
No delay	186	87.3	16,963	89.9
Delay in episode start	27	12.7	1,913	10.1
Missing	7		914	
All episodes	**220**	**100.0**	**19,790**	**100.0**

	YOUR FACILITY		AUSTRALIA	
Reasons for delay in episode start	**No.**	**%**	**No.**	**%**
Patient related issues	4	14.8	433	22.6
Service issues	23	85.2	1,474	77.1
External support issues	0	0.0	31	1.6
Equipment issues	0	0.0	6	0.3
Behavioural issues	0	0.0	21	1.1
Reason(s) not specified	0	0.0	3	0.2

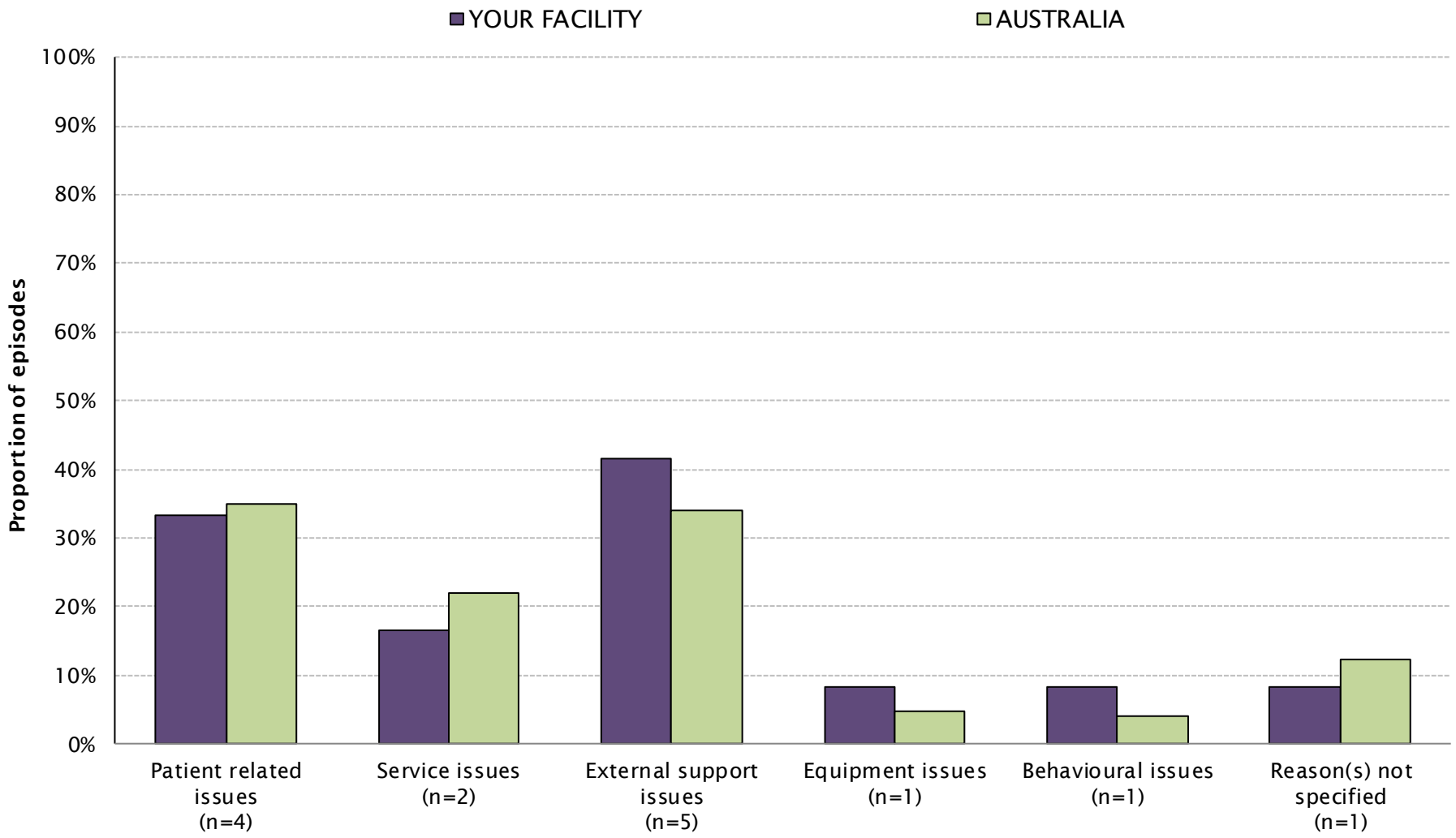
Days from clinically ready to discharge



*No data provided when less than 5 episodes have dates

NOTE: Includes completed episodes with a delay in discharge

Type of delay in episode end



NOTE: Includes completed episodes only

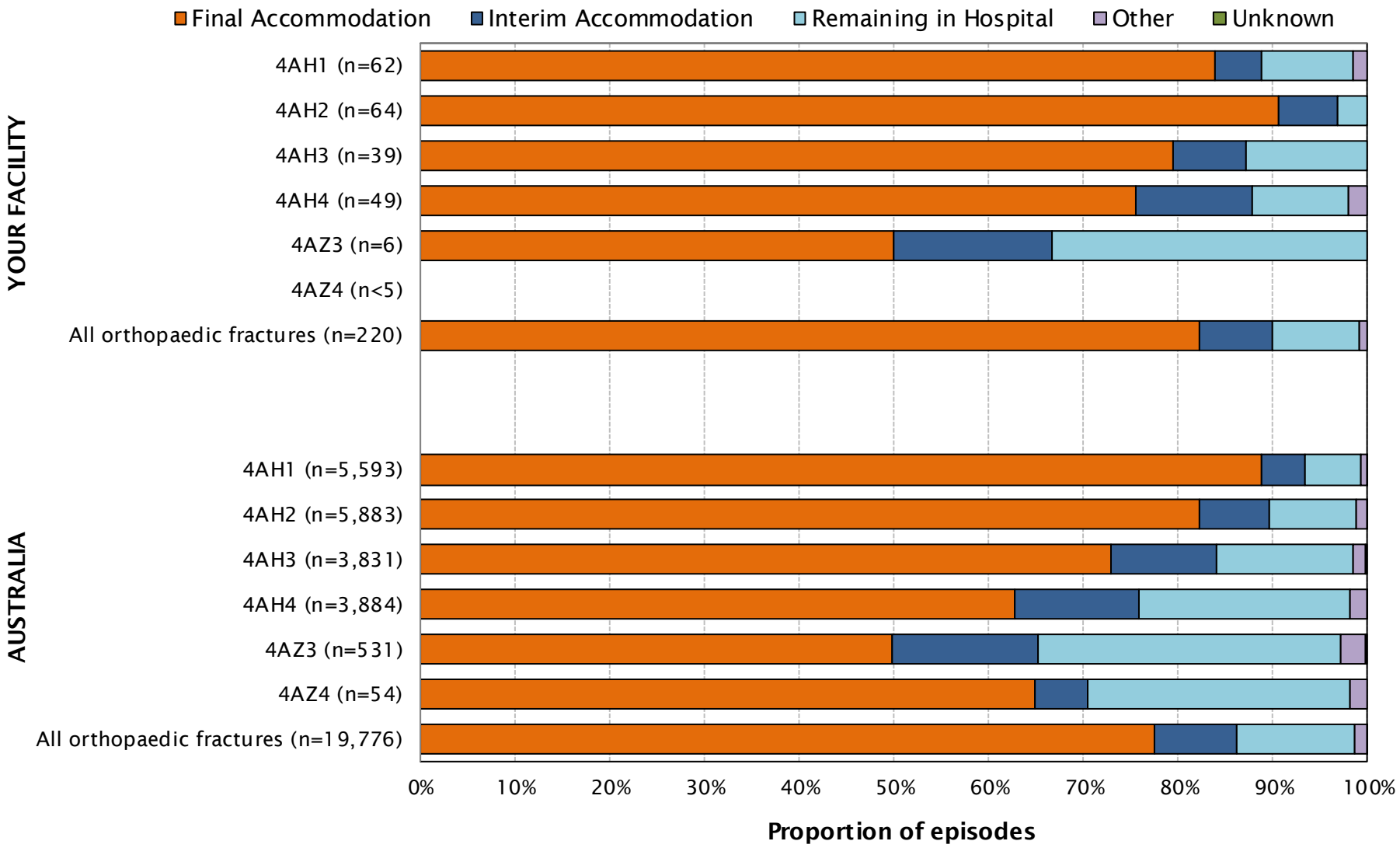
Delays in episode end

	YOUR FACILITY		AUSTRALIA	
Delay in episode end	**No.**	**%**	**No.**	**%**
No delay	177	93.7	15,339	93.8
Delay in episode end	12	6.3	1,013	6.2
Missing	7		862	
All episodes	**196**	**100.0**	**17,214**	**100.0**

	YOUR FACILITY		AUSTRALIA	
Reasons for delay in episode end	**No.**	**%**	**No.**	**%**
Patient related issues	4	33.3	353	34.8
Service issues	2	16.7	222	21.9
External support issues	5	41.7	345	34.1
Equipment issues	1	8.3	49	4.8
Behavioural issues	1	8.3	42	4.1
Reason(s) not specified	1	8.3	126	12.4

NOTE: Includes completed episodes only

Discharge destination by AN-SNAP class

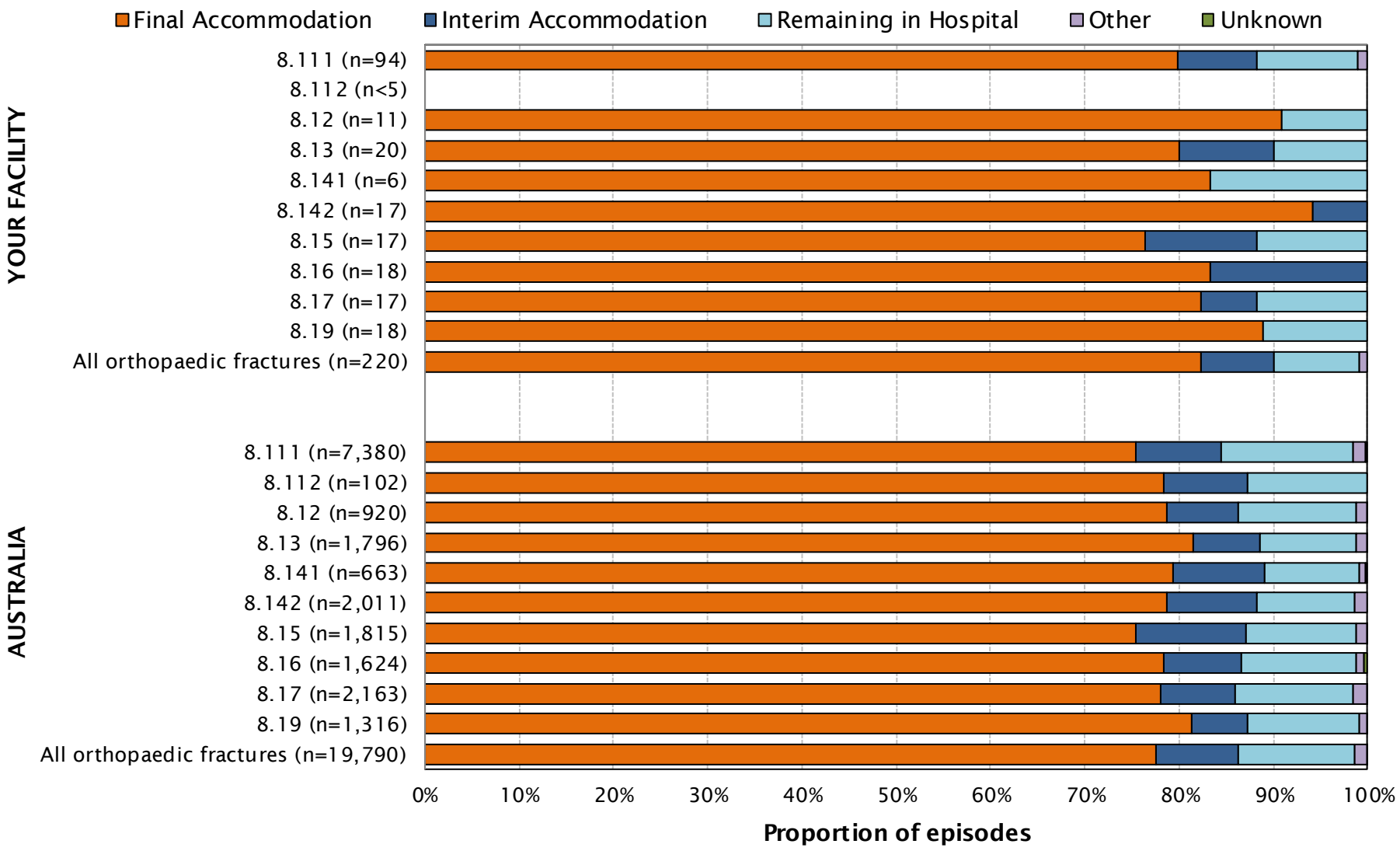


Discharge destination by AN-SNAP class

	YOUR FACILITY — N					AUSTRALIA — N				
AN-SNAP class V4	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4AH1 (motor 49-91, cognition 33-35)	52	3	6	1	0	4,968	256	328	33	8
4AH2 (motor 49-91, cognition 5-32)	58	4	2	0	0	4,839	432	537	71	4
4AH3 (motor 38-48)	31	3	5	0	0	2,790	432	550	52	7
4AH4 (motor 19-37)	37	6	5	1	0	2,439	509	863	68	5
4AZ3 (motor 13-18, Age ≥ 65)	3	1	2	0	0	264	82	170	14	1
4AZ4 (motor 13-18, Age ≤ 64)	0	0	0	0	0	35	3	15	1	0
All Fracture AN-SNAP classes	**181**	**17**	**20**	**2**	**0**	**15,335**	**1,714**	**2,463**	**239**	**25**

	YOUR FACILITY — %					AUSTRALIA — %				
AN-SNAP class V4	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
4AH1 (motor 49-91, cognition 33-35)	83.9	4.8	9.7	1.6	0.0	88.8	4.6	5.9	0.6	0.1
4AH2 (motor 49-91, cognition 5-32)	90.6	6.3	3.1	0.0	0.0	82.3	7.3	9.1	1.2	0.1
4AH3 (motor 38-48)	79.5	7.7	12.8	0.0	0.0	72.8	11.3	14.4	1.4	0.2
4AH4 (motor 19-37)	75.5	12.2	10.2	2.0	0.0	62.8	13.1	22.2	1.8	0.1
4AZ3 (motor 13-18, Age ≥ 65)	50.0	16.7	33.3	0.0	0.0	49.7	15.4	32.0	2.6	0.2
4AZ4 (motor 13-18, Age ≤ 64)	—	—	—	—	—	64.8	5.6	27.8	1.9	0.0
All Fracture AN-SNAP classes	**82.3**	**7.7**	**9.1**	**0.9**	**0.0**	**77.5**	**8.7**	**12.5**	**1.2**	**0.1**

Discharge destination by impairment

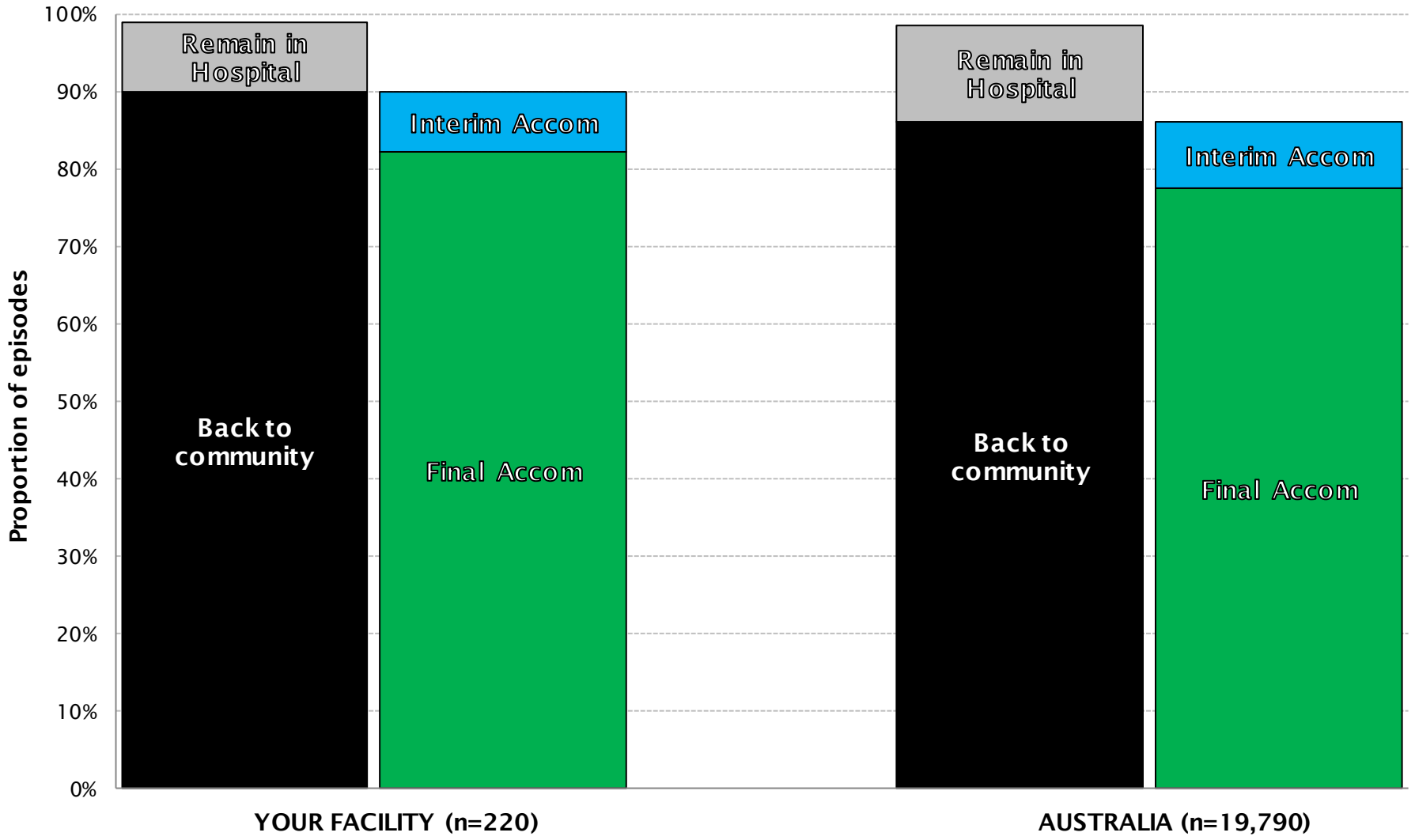


Discharge destination by impairment

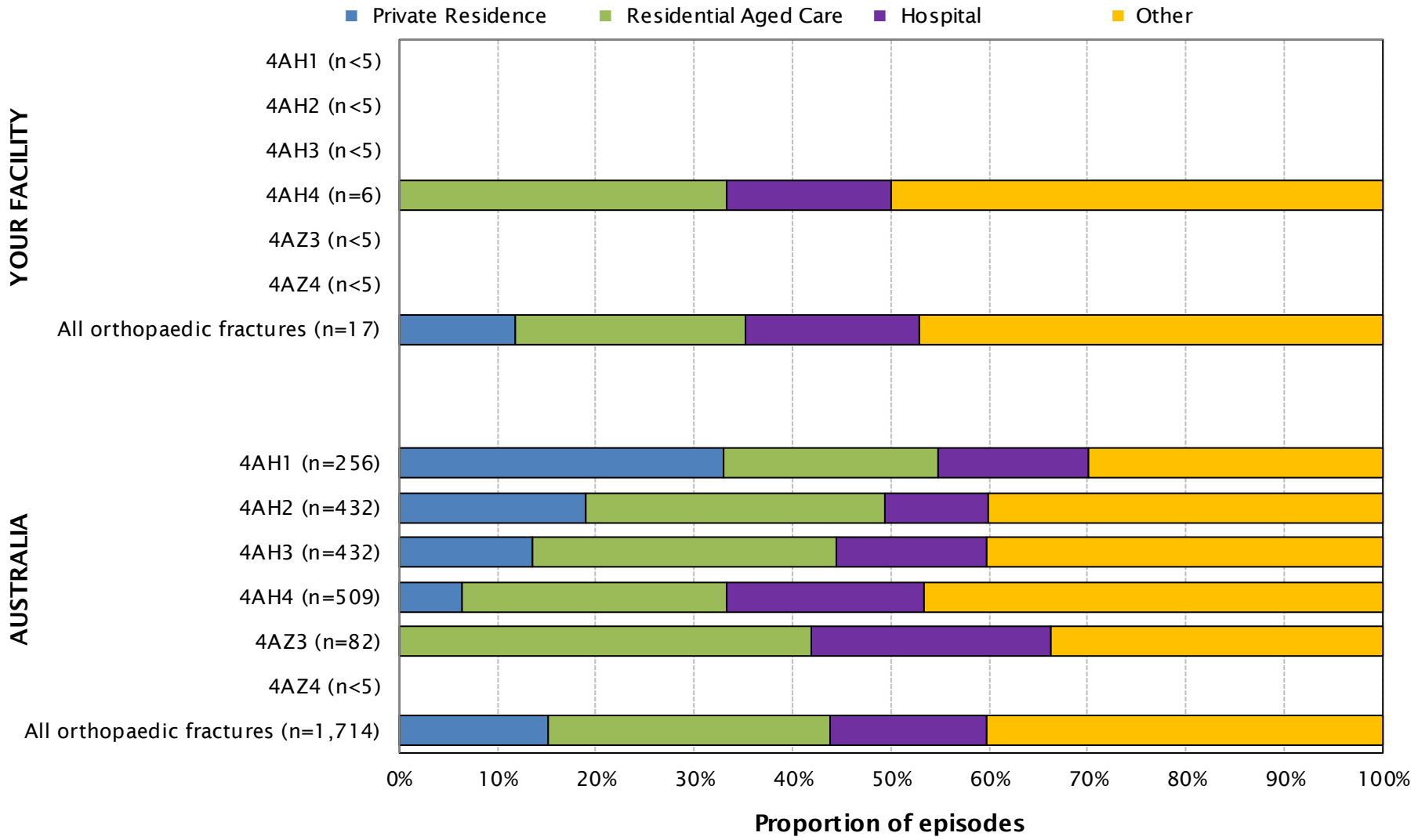
	YOUR FACILITY — N					AUSTRALIA — N				
Impairment	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.111 Fracture of hip, unilateral	75	8	10	1	0	5,568	660	1,039	97	16
8.112 Fracture of hip, bilateral	1	0	0	1	0	80	9	13	0	0
8.12 Fracture of shaft of femur	10	0	1	0	0	724	69	116	10	1
8.13 Fracture of pelvis	16	2	2	0	0	1,464	126	185	20	1
8.141 Fracture of knee	5	0	1	0	0	526	64	67	5	1
8.142 Fracture of leg, ankle, foot	16	1	0	0	0	1,581	193	210	27	0
8.15 Fracture of upper limb	13	2	2	0	0	1,369	213	210	22	1
8.16 Fracture of spine	15	3	0	0	0	1,273	133	198	14	6
8.17 Fracture of multiple sites	14	1	2	0	0	1,689	170	270	33	1
8.19 Other orthopaedic fracture	16	0	2	0	0	1,071	77	156	11	1
All Orthopaedic Fractures	**181**	**17**	**20**	**2**	**0**	**15,345**	**1,714**	**2,464**	**239**	**28**

	YOUR FACILITY — %					AUSTRALIA — %				
Impairment	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown	Final Accom	Interim Accom	Remaining in Hospital	Other	Unknown
8.111 Fracture of hip, unilateral	79.8	8.5	10.6	1.1	0.0	75.4	8.9	14.1	1.3	0.2
8.112 Fracture of hip, bilateral	50.0	0.0	0.0	50.0	0.0	78.4	8.8	12.7	0.0	0.0
8.12 Fracture of shaft of femur	90.9	0.0	9.1	0.0	0.0	78.7	7.5	12.6	1.1	0.1
8.13 Fracture of pelvis	80.0	10.0	10.0	0.0	0.0	81.5	7.0	10.3	1.1	0.1
8.141 Fracture of knee	83.3	0.0	16.7	0.0	0.0	79.3	9.7	10.1	0.8	0.2
8.142 Fracture of leg, ankle, foot	94.1	5.9	0.0	0.0	0.0	78.6	9.6	10.4	1.3	0.0
8.15 Fracture of upper limb	76.5	11.8	11.8	0.0	0.0	75.4	11.7	11.6	1.2	0.1
8.16 Fracture of spine	83.3	16.7	0.0	0.0	0.0	78.4	8.2	12.2	0.9	0.4
8.17 Fracture of multiple sites	82.4	5.9	11.8	0.0	0.0	78.1	7.9	12.5	1.5	0.0
8.19 Other orthopaedic fracture	88.9	0.0	11.1	0.0	0.0	81.4	5.9	11.9	0.8	0.1
All Orthopaedic Fractures	**82.3**	**7.7**	**9.1**	**0.9**	**0.0**	**77.5**	**8.7**	**12.5**	**1.2**	**0.1**

Discharge destination



Interim accommodation post discharge by AN-SNAP class



NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by AN-SNAP class

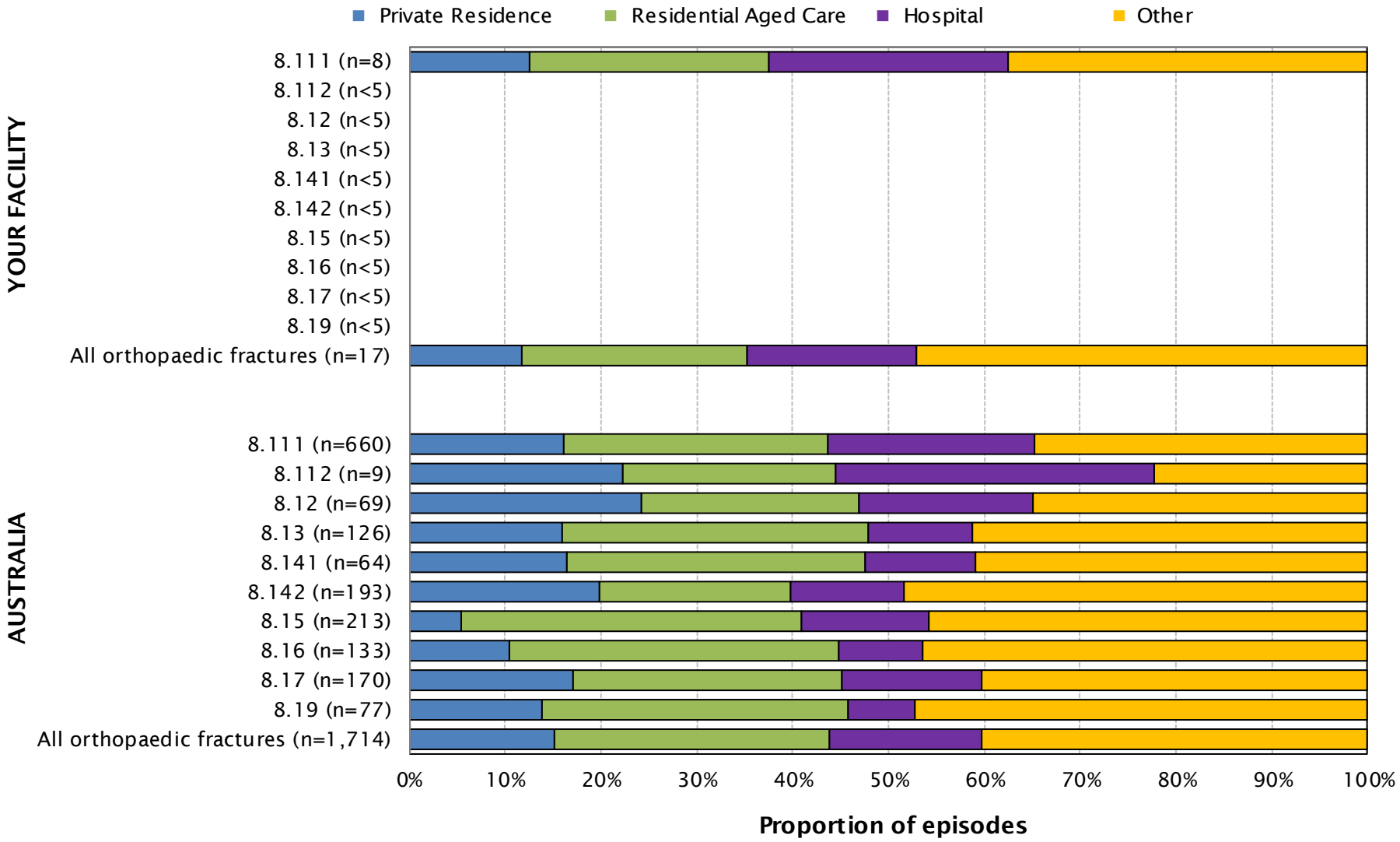
	YOUR FACILITY — N (%)									
AN-SNAP class V4	Private residence		Residential Aged Care		Hospital		Other		All episodes**	
4AH1 (motor 49-91, cognition 33-35)	1	(33.3)	0	(0.0)	1	(33.3)	1	(33.3)	3	(100.0)
4AH2 (motor 49-91, cognition 5-32)	0	(0.0)	2	(50.0)	0	(0.0)	2	(50.0)	4	(100.0)
4AH3 (motor 38-48)	1	(33.3)	0	(0.0)	1	(33.3)	1	(33.3)	3	(100.0)
4AH4 (motor 19-37)	0	(0.0)	2	(33.3)	1	(16.7)	3	(50.0)	6	(100.0)
4AZ3 (motor 13-18, Age ≥ 65)	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)	1	(100.0)
4AZ4 (motor 13-18, Age ≤ 64)	0	—	0	—	0	—	0	—	0	—
All Fracture AN-SNAP classes	**2**	**(11.8)**	**4**	**(23.5)**	**3**	**(17.6)**	**8**	**(47.1)**	**17**	**(100.0)**

	AUSTRALIA — N (%)									
AN-SNAP class V4	Private residence		Residential Aged Care		Hospital		Other		All episodes**	
4AH1 (motor 49-91, cognition 33-35)	82	(32.0)	54	(21.1)	38	(14.8)	74	(28.9)	256	(100.0)
4AH2 (motor 49-91, cognition 5-32)	79	(18.3)	127	(29.4)	44	(10.2)	167	(38.7)	432	(100.0)
4AH3 (motor 38-48)	56	(13.0)	127	(29.4)	63	(14.6)	166	(38.4)	432	(100.0)
4AH4 (motor 19-37)	31	(6.1)	129	(25.3)	97	(19.1)	224	(44.0)	509	(100.0)
4AZ3 (motor 13-18, Age ≥ 65)	0	(0.0)	31	(37.8)	18	(22.0)	25	(30.5)	82	(100.0)
4AZ4 (motor 13-18, Age ≤ 64)	0	(0.0)	0	(0.0)	0	(0.0)	3	(100.0)	3	(100.0)
All Fracture AN-SNAP classes	**248**	**(14.5)**	**468**	**(27.3)**	**260**	**(15.2)**	**659**	**(38.4)**	**1,714**	**(100.0)**

** There were 0 episode(s) in YOUR FACILITY and 79 episodes in AUSTRALIA with unknown interim accommodation

NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by impairment



NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Interim accommodation post discharge by impairment

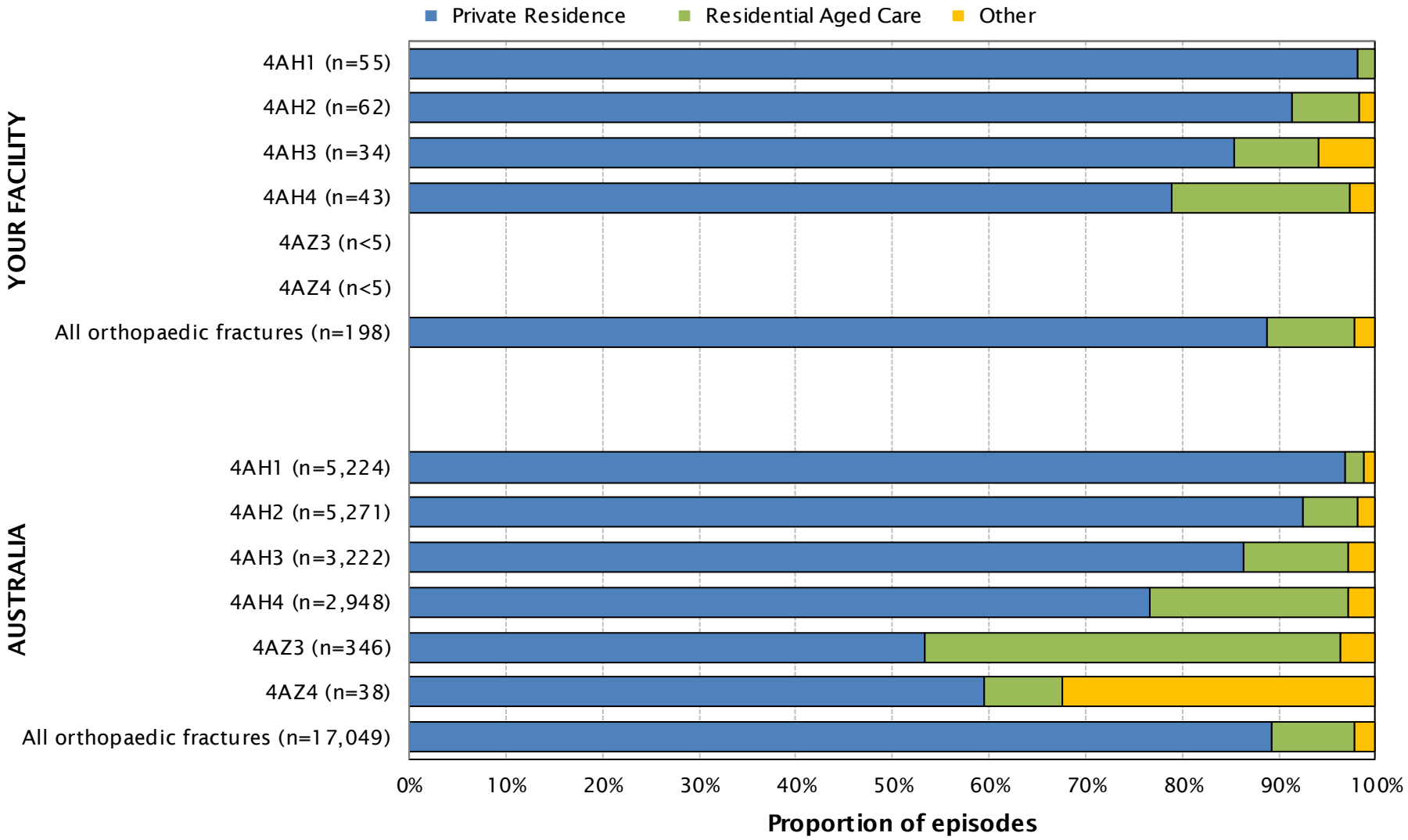
YOUR FACILITY — N (%)										
Impairment	Private residence		Residential Aged Care		Hospital		Other		All episodes**	
8.111 Fracture of hip, unilateral	1	(12.5)	2	(25.0)	2	(25.0)	3	(37.5)	8	(100.0)
8.112 Fracture of hip, bilateral	0	—	0	—	0	—	0	—	0	—
8.12 Fracture of shaft of femur	0	—	0	—	0	—	0	—	0	—
8.13 Fracture of pelvis	0	(0.0)	1	(50.0)	0	(0.0)	1	(50.0)	2	(100.0)
8.141 Fracture of knee	0	—	0	—	0	—	0	—	0	—
8.142 Fracture of leg, ankle, foot	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)	1	(100.0)
8.15 Fracture of upper limb	0	(0.0)	1	(50.0)	1	(50.0)	0	(0.0)	2	(100.0)
8.16 Fracture of spine	0	(0.0)	0	(0.0)	0	(0.0)	3	(100.0)	3	(100.0)
8.17 Fracture of multiple sites	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)
8.19 Other orthopaedic fracture	0	—	0	—	0	—	0	—	0	—
All Orthopaedic Fractures	**2**	**(11.8)**	**4**	**(23.5)**	**3**	**(17.6)**	**8**	**(47.1)**	**17**	**(100.0)**

AUSTRALIA — N (%)										
Impairment	Private residence		Residential Aged Care		Hospital		Other		All episodes**	
8.111 Fracture of hip, unilateral	102	(15.5)	173	(26.2)	136	(20.6)	219	(33.2)	660	(100.0)
8.112 Fracture of hip, bilateral	2	(22.2)	2	(22.2)	3	(33.3)	2	(22.2)	9	(100.0)
8.12 Fracture of shaft of femur	16	(23.2)	15	(21.7)	12	(17.4)	23	(33.3)	69	(100.0)
8.13 Fracture of pelvis	19	(15.1)	38	(30.2)	13	(10.3)	49	(38.9)	126	(100.0)
8.141 Fracture of knee	10	(15.6)	19	(29.7)	7	(10.9)	25	(39.1)	64	(100.0)
8.142 Fracture of leg, ankle, foot	37	(19.2)	37	(19.2)	22	(11.4)	90	(46.6)	193	(100.0)
8.15 Fracture of upper limb	11	(5.2)	72	(33.8)	27	(12.7)	93	(43.7)	213	(100.0)
8.16 Fracture of spine	13	(9.8)	43	(32.3)	11	(8.3)	58	(43.6)	133	(100.0)
8.17 Fracture of multiple sites	28	(16.5)	46	(27.1)	24	(14.1)	66	(38.8)	170	(100.0)
8.19 Other orthopaedic fracture	10	(13.0)	23	(29.9)	5	(6.5)	34	(44.2)	77	(100.0)
All Orthopaedic Fractures	**248**	**(14.5)**	**468**	**(27.3)**	**260**	**(15.2)**	**659**	**(38.4)**	**1,714**	**(100.0)**

** There were 0 episode(s) in YOUR FACILITY and 79 episodes in AUSTRALIA with unknown interim accommodation

NOTE: Includes only those episodes with mode of episode end equal to interim accommodation

Final accommodation post discharge by AN-SNAP class



NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

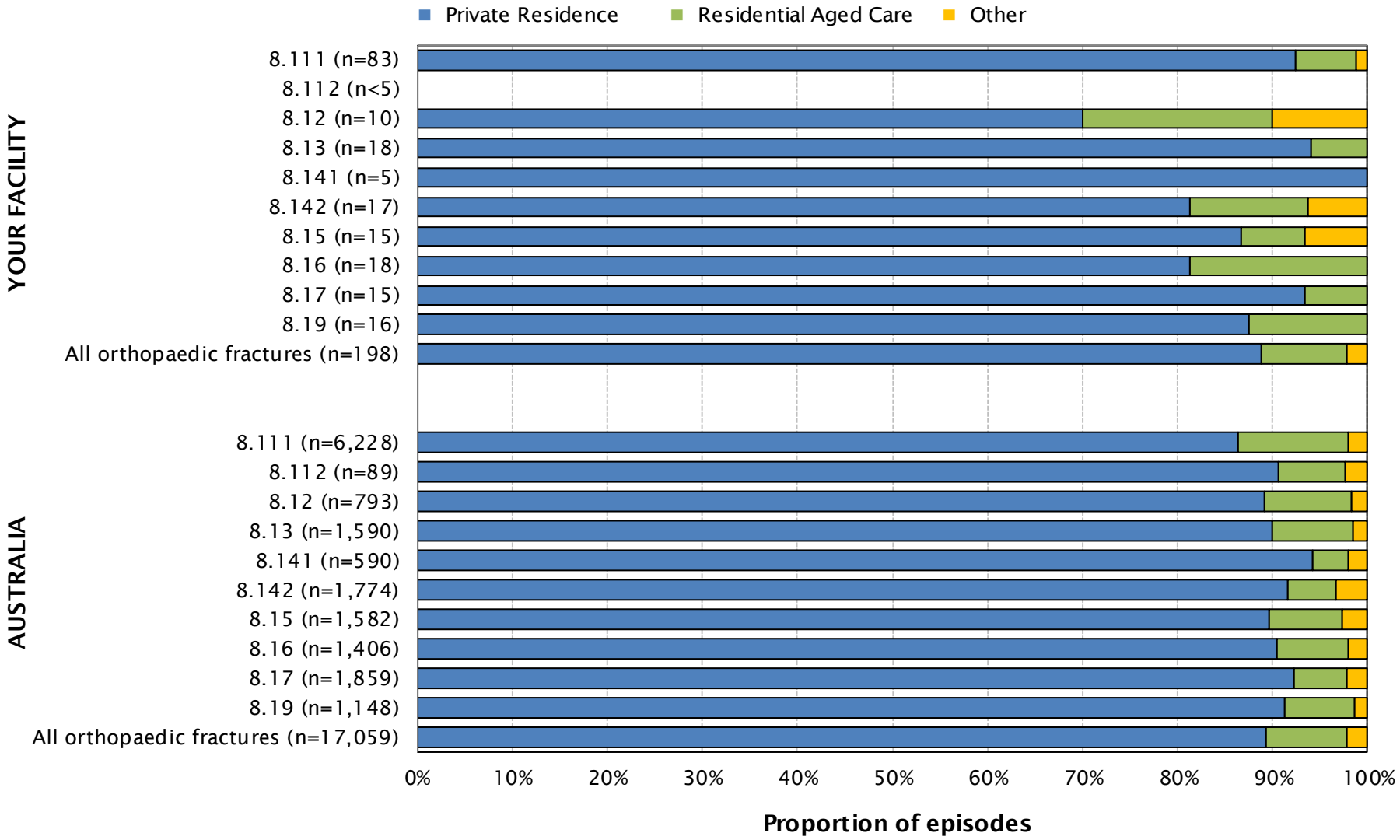
Final accommodation post discharge by AN-SNAP class

YOUR FACILITY — N (%)										
AN-SNAP class V4	Private residence		Residential Aged Care		Other		Missing	All episodes	
4AH1 (motor 49-91, cognition 33-35)	54	(98.2)	1	(1.8)	0	(0.0)	0	55	(100.0)
4AH2 (motor 49-91, cognition 5-32)	53	(88.3)	4	(6.7)	3	(5.0)	2	60	(100.0)
4AH3 (motor 38-48)	29	(85.3)	3	(8.8)	2	(5.9)	0	34	(100.0)
4AH4 (motor 19-37)	30	(73.2)	7	(17.1)	4	(9.8)	2	41	(100.0)
4AZ3 (motor 13-18, Age ≥ 65)	1	(25.0)	2	(50.0)	1	(25.0)	0	4	(100.0)
4AZ4 (motor 13-18, Age ≤ 64)	0	—	0	—	0	—	0	0	—
All Fracture AN-SNAP classes	**167**	**(86.1)**	**17**	**(8.8)**	**10**	**(5.2)**	**4**	**194**	**(100.0)**

AUSTRALIA — N (%)										
AN-SNAP class V4	Private residence		Residential Aged Care		Other		Missing	All episodes	
4AH1 (motor 49-91, cognition 33-35)	4,922	(94.2)	94	(1.8)	113	(2.2)	95	5,224	(100.0)
4AH2 (motor 49-91, cognition 5-32)	4,627	(87.8)	282	(5.4)	200	(3.8)	162	5,271	(100.0)
4AH3 (motor 38-48)	2,591	(80.4)	324	(10.1)	195	(6.1)	112	3,222	(100.0)
4AH4 (motor 19-37)	2,078	(70.5)	559	(19.0)	200	(6.8)	111	2,948	(100.0)
4AZ3 (motor 13-18, Age ≥ 65)	164	(47.4)	132	(38.2)	28	(8.1)	22	346	(100.0)
4AZ4 (motor 13-18, Age ≤ 64)	22	(57.9)	3	(7.9)	12	(31.6)	1	38	(100.0)
All Fracture AN-SNAP classes	**14,404**	**(84.5)**	**1,394**	**(8.2)**	**748**	**(4.4)**	**503**	**17,049**	**(100.0)**

NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Final accommodation post discharge by impairment



NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

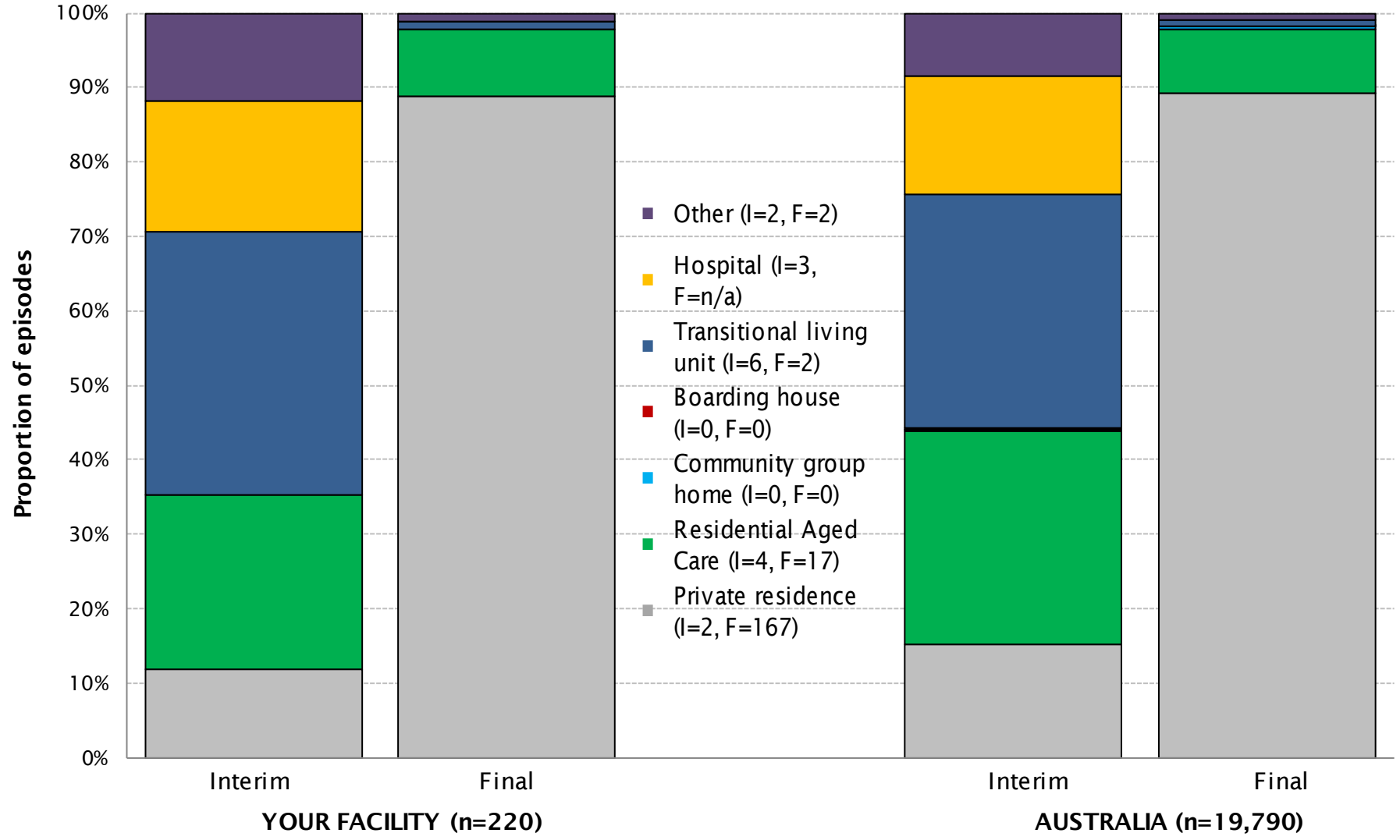
Final accommodation post discharge by impairment

YOUR FACILITY — N (%)										
Impairment	Private residence		Residential Aged Care		Other		Missing	All episodes	
8.111 Fracture of hip, unilateral	73	(90.1)	5	(6.2)	3	(3.7)	2	81	(100.0)
8.112 Fracture of hip, bilateral	1	(100.0)	0	(0.0)	0	(0.0)	0	1	(100.0)
8.12 Fracture of shaft of femur	7	(70.0)	2	(20.0)	1	(10.0)	0	10	(100.0)
8.13 Fracture of pelvis	16	(88.9)	1	(5.6)	1	(5.6)	0	18	(100.0)
8.141 Fracture of knee	3	(100.0)	0	(0.0)	0	(0.0)	2	3	(100.0)
8.142 Fracture of leg, ankle, foot	13	(76.5)	2	(11.8)	2	(11.8)	0	17	(100.0)
8.15 Fracture of upper limb	13	(86.7)	1	(6.7)	1	(6.7)	0	15	(100.0)
8.16 Fracture of spine	13	(72.2)	3	(16.7)	2	(11.1)	0	18	(100.0)
8.17 Fracture of multiple sites	14	(93.3)	1	(6.7)	0	(0.0)	0	15	(100.0)
8.19 Other orthopaedic fracture	14	(87.5)	2	(12.5)	0	(0.0)	0	16	(100.0)
All Orthopaedic Fractures	**167**	**(86.1)**	**17**	**(8.8)**	**10**	**(5.2)**	**4**	**194**	**(100.0)**

AUSTRALIA — N (%)										
Impairment	Private residence		Residential Aged Care		Other		Missing	All episodes	
8.111 Fracture of hip, unilateral	5,076	(81.5)	690	(11.1)	254	(4.1)	208	6,228	(100.0)
8.112 Fracture of hip, bilateral	77	(86.5)	6	(6.7)	4	(4.5)	2	89	(100.0)
8.12 Fracture of shaft of femur	672	(84.7)	69	(8.7)	29	(3.7)	23	793	(100.0)
8.13 Fracture of pelvis	1,352	(85.0)	128	(8.1)	60	(3.8)	50	1,590	(100.0)
8.141 Fracture of knee	529	(89.7)	22	(3.7)	26	(4.4)	13	590	(100.0)
8.142 Fracture of leg, ankle, foot	1,544	(87.0)	86	(4.8)	88	(5.0)	56	1,774	(100.0)
8.15 Fracture of upper limb	1,313	(83.0)	114	(7.2)	108	(6.8)	47	1,582	(100.0)
8.16 Fracture of spine	1,213	(86.3)	102	(7.3)	62	(4.4)	29	1,406	(100.0)
8.17 Fracture of multiple sites	1,633	(87.8)	99	(5.3)	86	(4.6)	41	1,859	(100.0)
8.19 Other orthopaedic fracture	1,002	(87.3)	79	(6.9)	31	(2.7)	36	1,148	(100.0)
All Orthopaedic Fractures	**14,411**	**(84.5)**	**1,395**	**(8.2)**	**748**	**(4.4)**	**505**	**17,059**	**(100.0)**

NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Interim and final accommodation post discharge



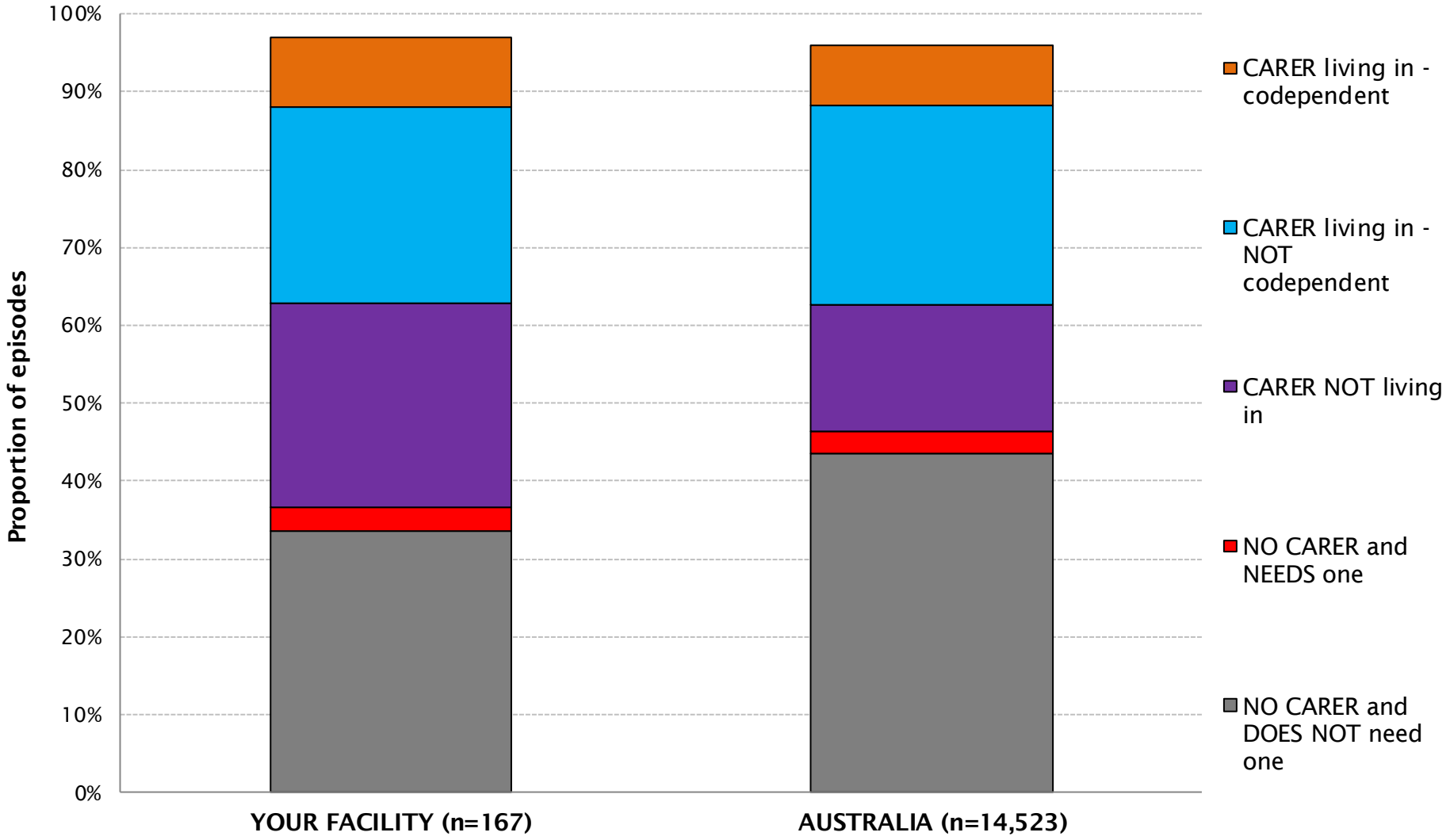
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Interim and final accommodation post discharge

	YOUR FACILITY				AUSTRALIA			
Accommodation	Interim	(%)	Final	(%)	Interim	(%)	Final	(%)
Private residence	2	(11.8)	167	(88.8)	248	(15.2)	14,404	(89.2)
Residential Aged Care	4	(23.5)	17	(9.0)	468	(28.6)	1,394	(8.6)
Community group home	0	(0.0)	0	(0.0)	6	(0.4)	51	(0.3)
Boarding house	0	(0.0)	0	(0.0)	1	(0.1)	21	(0.1)
Transitional living unit	6	(35.3)	2	(1.1)	514	(31.4)	118	(0.7)
Hospital	3	(17.6)	n/a		260	(15.9)	n/a	
Other	2	(11.8)	2	(1.1)	138	(8.4)	154	(1.0)
Missing/Unknown	0		10		79		907	
All episodes	**17**	**(100.0)**	**198**	**(100.0)**	**1,714**	**(100.0)**	**17,049**	**(100.0)**

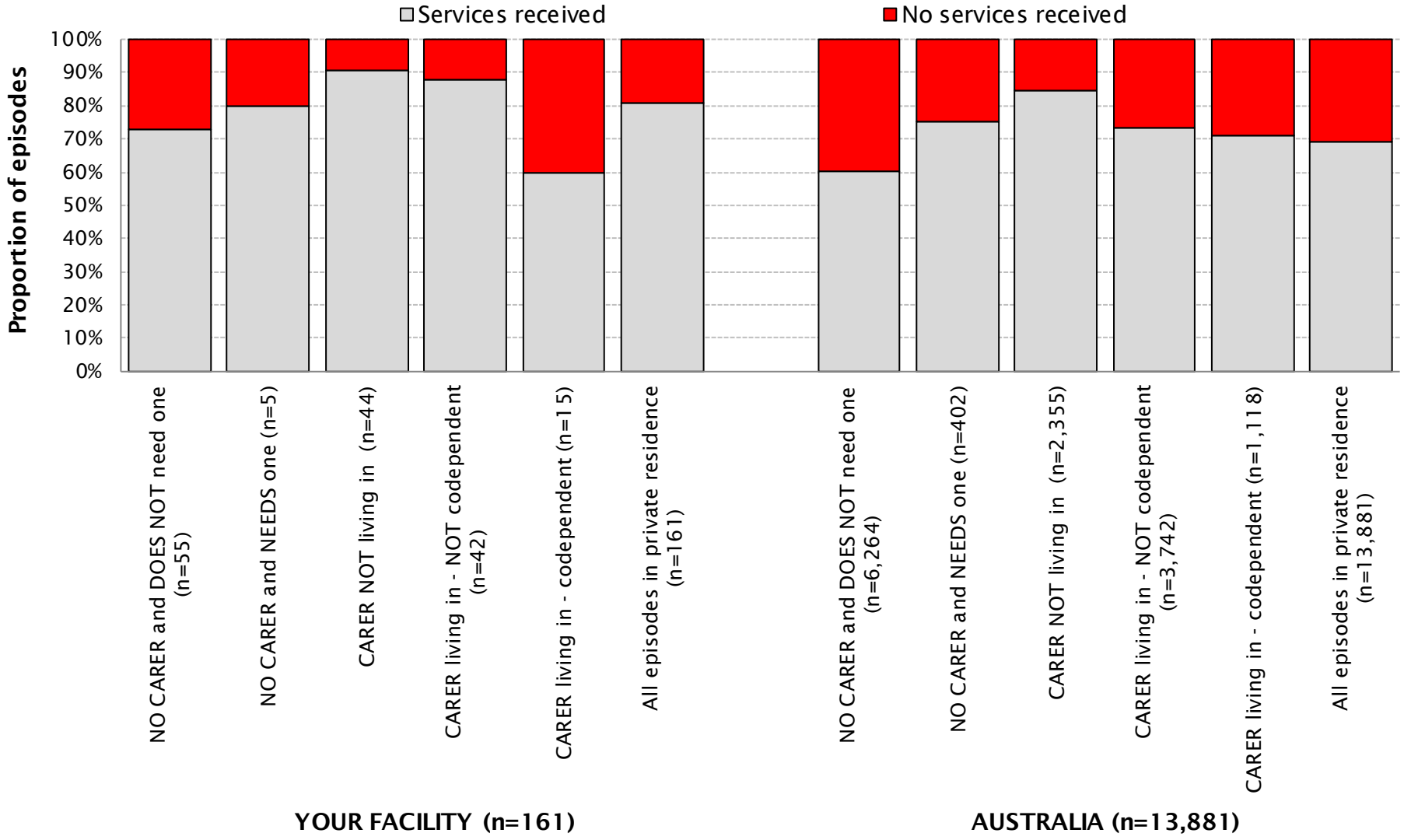
NOTE: Includes only those episodes with mode of episode end equal to either final or interim accommodation

Carer status post discharge



NOTE: Includes only those episodes whose final accommodation is private residence

Any services received post discharge by carer status



NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

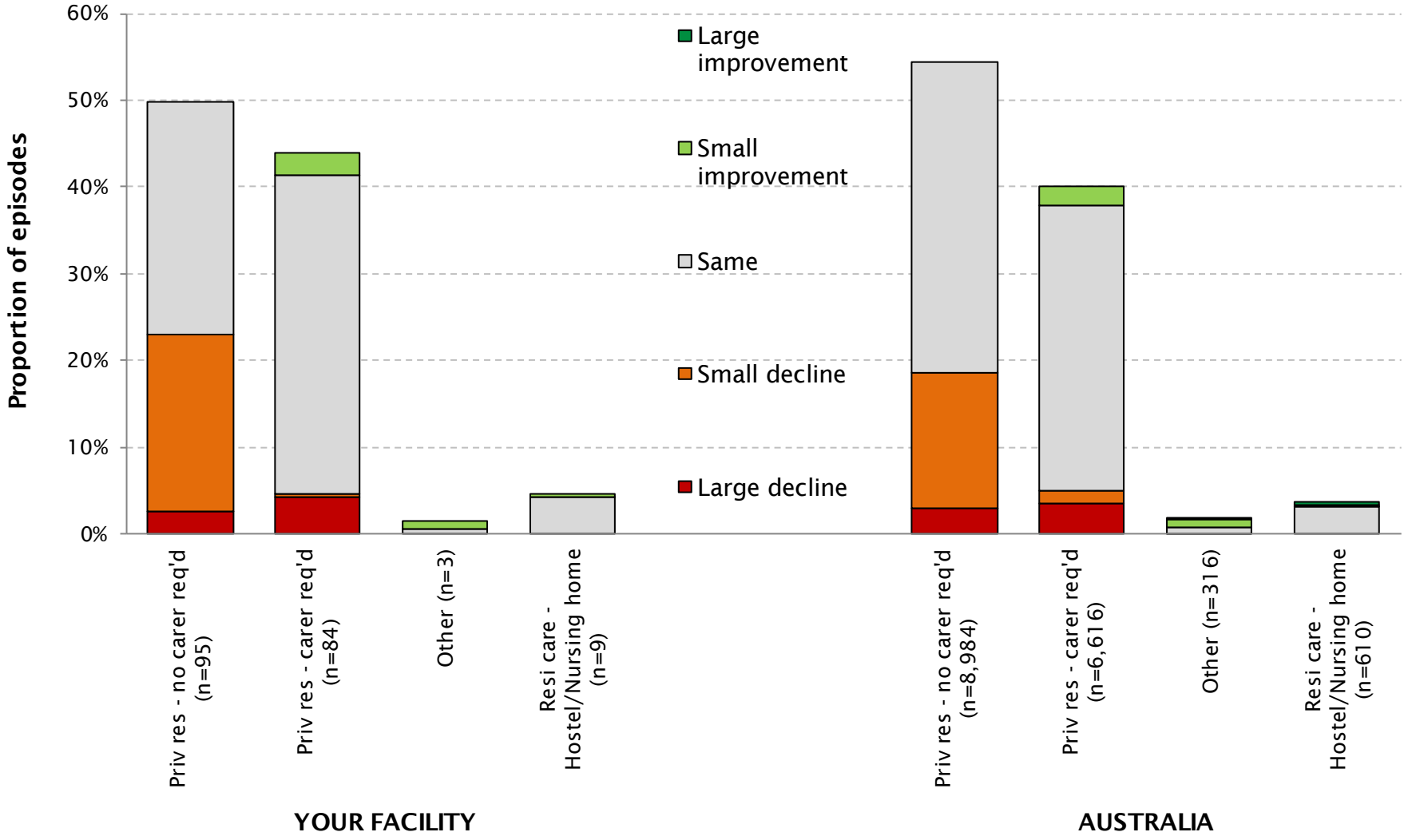
Carer status and any services received post discharge

	YOUR FACILITY		AUSTRALIA	
Carer status post discharge	**No.**	**%**	**No.**	**%**
NO CARER and DOES NOT need one	56	34.6	6,331	45.4
NO CARER and NEEDS one	5	3.1	402	2.9
CARER NOT living in	44	27.2	2,356	16.9
CARER living in - NOT codependent	42	25.9	3,742	26.8
CARER living in - codependent	15	9.3	1,118	8.0
Missing	5		574	
All episodes in private residence	**167**	**100.0**	**14,523**	**100.0**

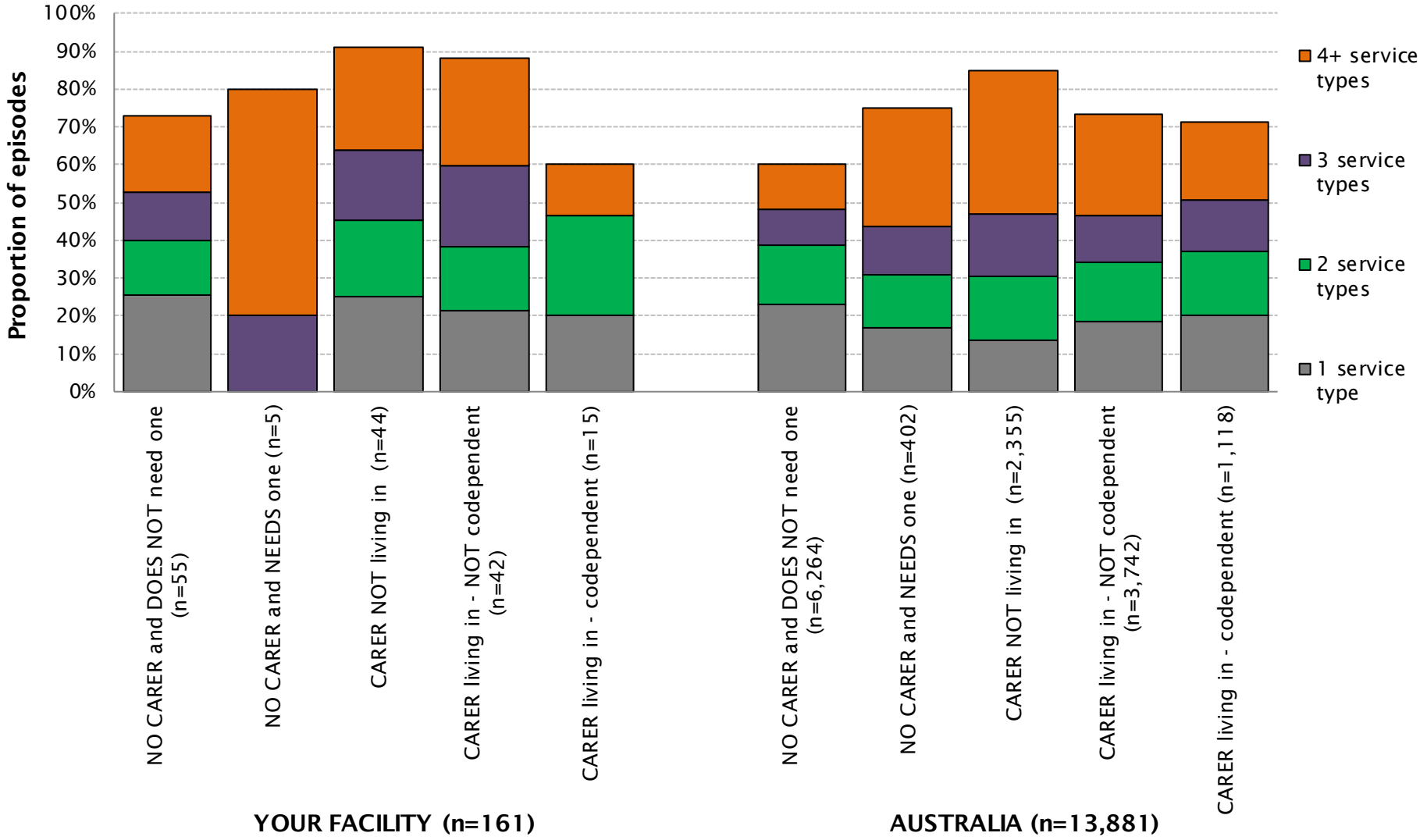
	Any services received post discharge?			
	YOUR FACILITY		AUSTRALIA	
Carer status post discharge	**Yes (%)**	**No (%)**	**Yes (%)**	**No (%)**
NO CARER and DOES NOT need one	72.7	27.3	60.3	39.7
NO CARER and NEEDS one	80.0	20.0	75.1	24.9
CARER NOT living in	90.9	9.1	84.8	15.2
CARER living in - NOT codependent	88.1	11.9	73.5	26.5
CARER living in - codependent	60.0	40.0	71.2	28.8
All episodes in private residence	**80.7**	**19.3**	**69.3**	**30.7**

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Change in prior accommodation post discharge

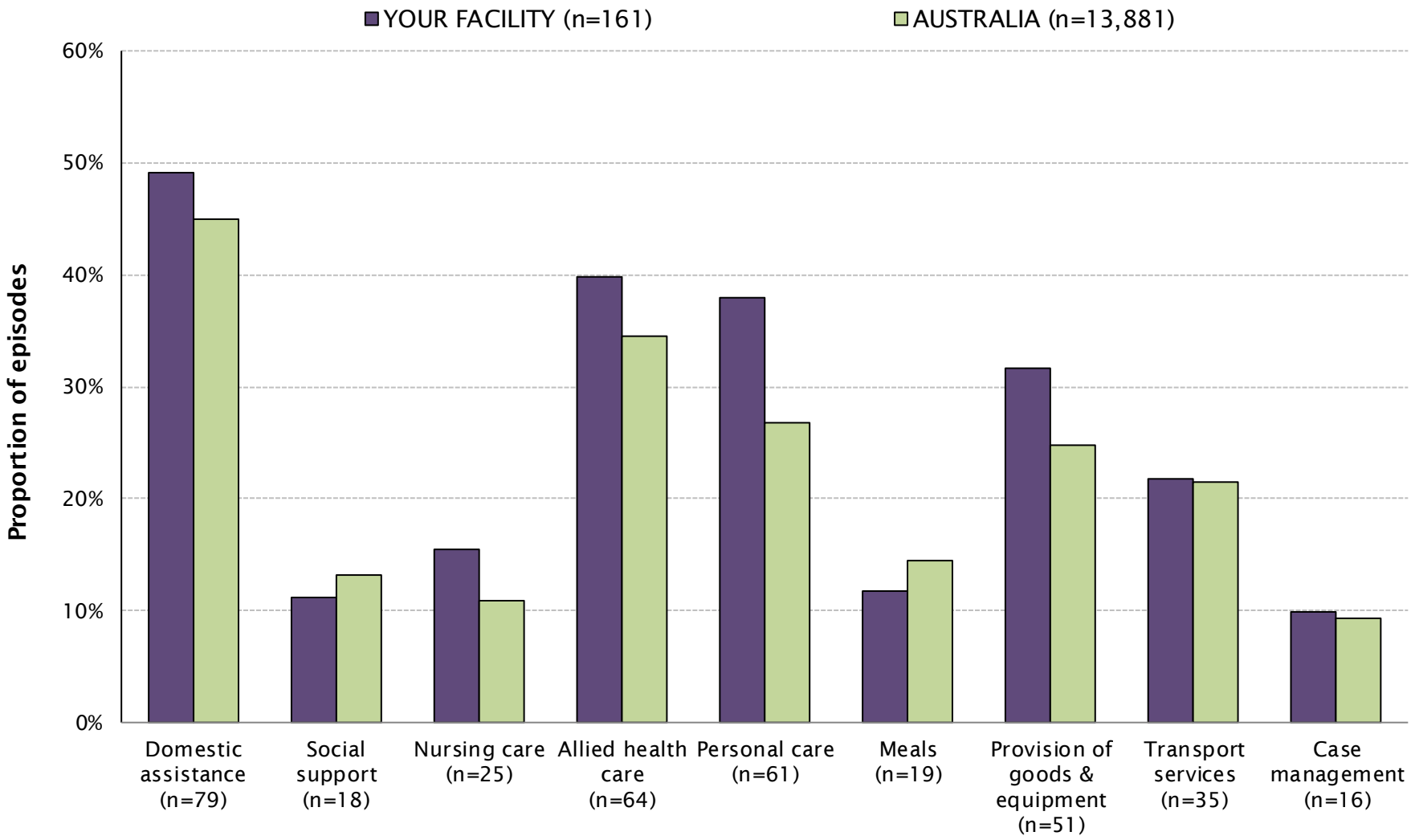


Number of services received post discharge by carer status



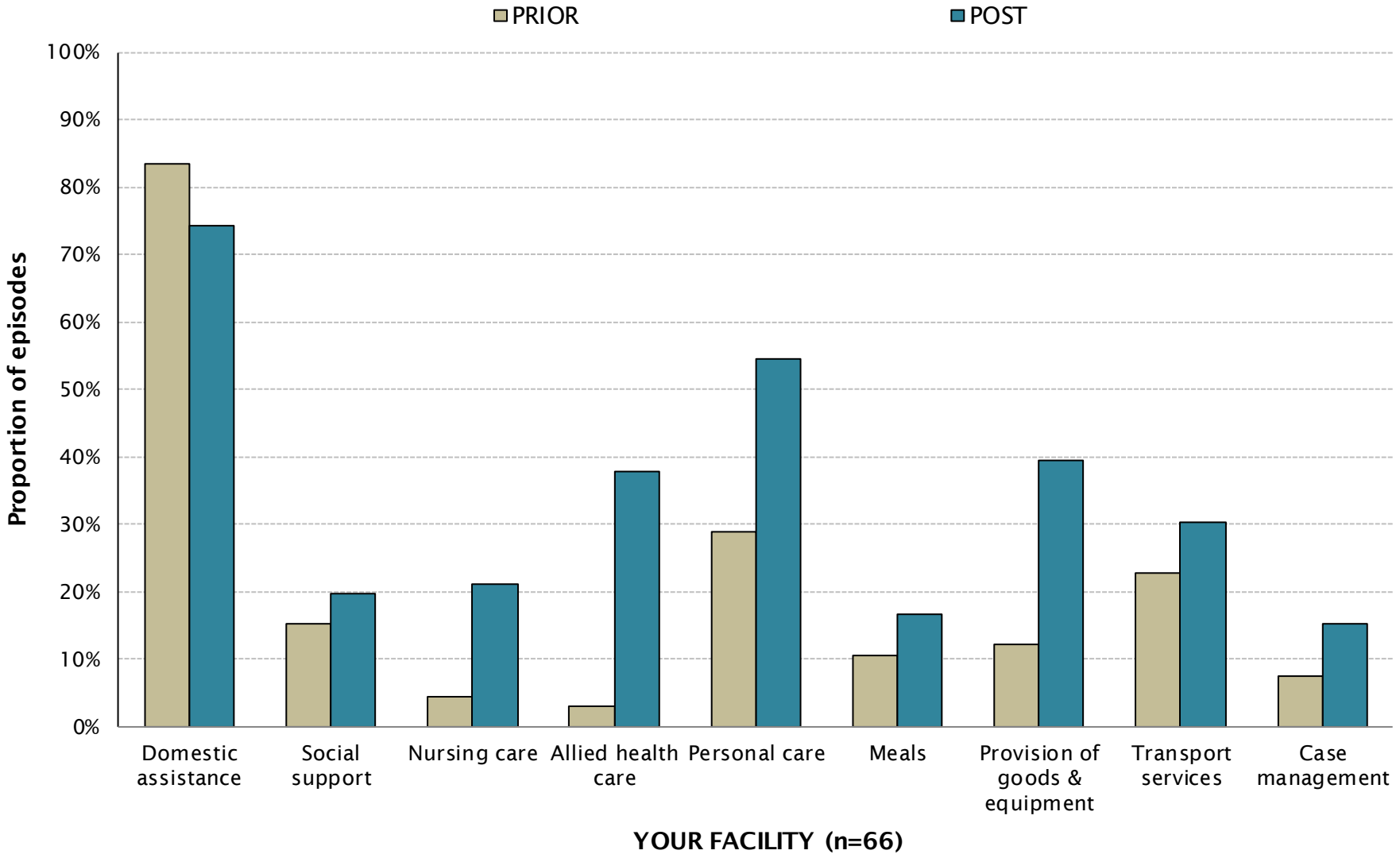
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Type of services received post discharge



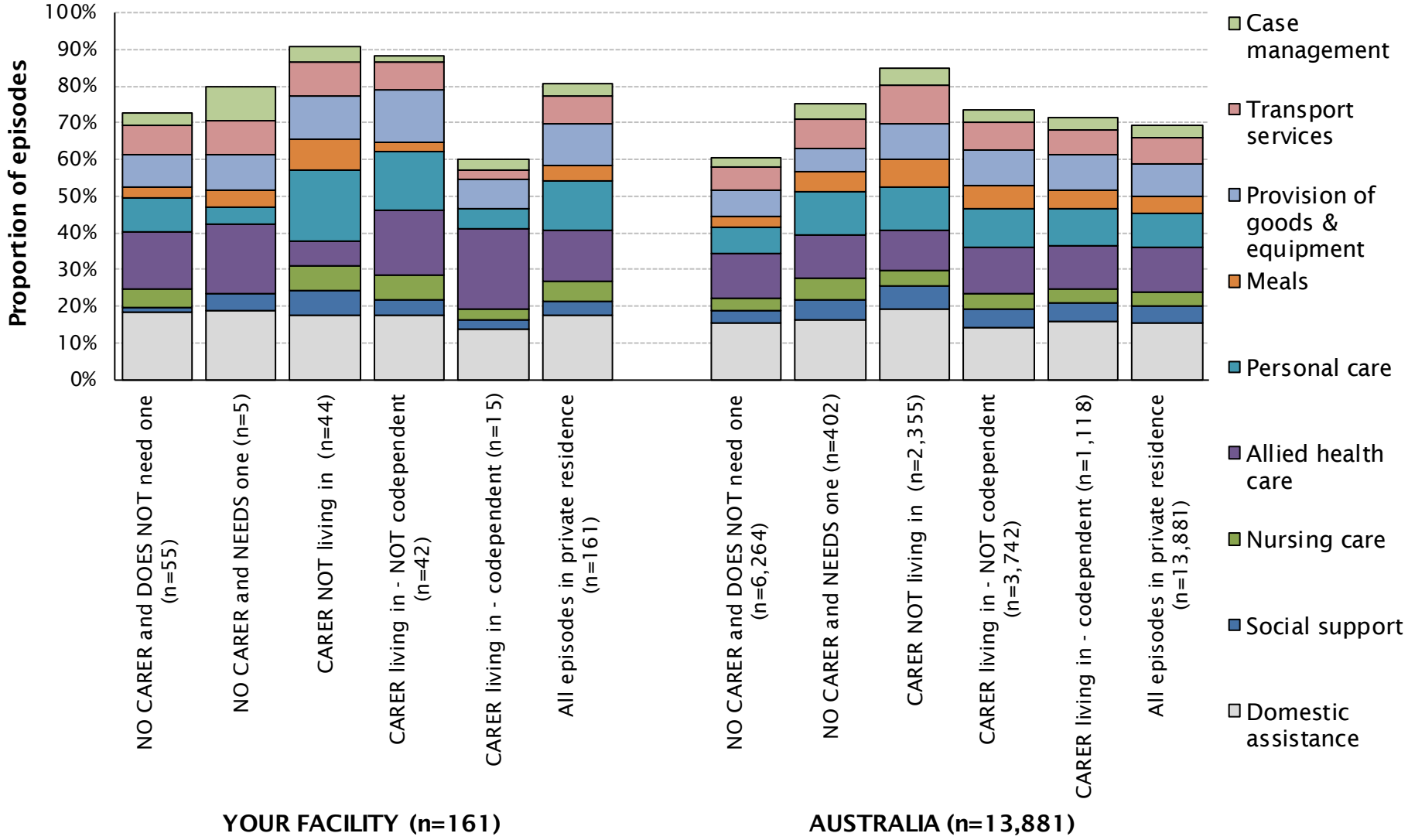
NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Type of services received pre and post rehabilitation



NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and received services both pre and post the episode

Type of services received post discharge by carer status



NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Number and type of services received post discharge by carer status – Your facility

Services received post discharge	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
	Carer status post discharge - YOUR FACILITY					
Number of episodes in private residence	55	5	44	42	15	**161**
Percent of episodes receiving:						
No services	27.3	20.0	9.1	11.9	40.0	**19.3**
1 service type	25.5	0.0	25.0	21.4	20.0	**23.0**
2 service types	14.5	0.0	20.5	16.7	26.7	**17.4**
3 service types	12.7	20.0	18.2	21.4	0.0	**15.5**
4 or more service types	20.0	60.0	27.3	28.6	13.3	**24.8**
Service Type received						
Domestic assistance	47.3	80.0	52.3	50.0	33.3	**49.1**
Social support	3.6	20.0	20.5	11.9	6.7	**11.2**
Nursing care	12.7	0.0	20.5	19.0	6.7	**15.5**
Allied health care	40.0	80.0	20.5	50.0	53.3	**39.8**
Personal care	23.6	20.0	59.1	45.2	13.3	**37.9**
Meals	7.3	20.0	25.0	7.1	0.0	**11.8**
Provision of goods & equipment	23.6	40.0	36.4	40.5	20.0	**31.7**
Transport services	20.0	40.0	27.3	21.4	6.7	**21.7**
Case management	9.1	40.0	13.6	4.8	6.7	**9.9**

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Number and type of services received post discharge by carer status - National

Services received post discharge	NO CARER and DOES NOT need one	NO CARER and NEEDS one	CARER NOT living in	CARER living in - NOT codependent	CARER living in - codependent	All episodes in private residence
	Carer status post discharge - AUSTRALIA					
Number of episodes in private residence	6,264	402	2,355	3,742	1,118	**13,881**
Percent of episodes receiving:						
No services	39.7	24.9	15.2	26.5	28.8	**30.7**
1 service type	23.2	16.7	13.3	18.5	20.3	**19.8**
2 service types	15.5	14.2	17.1	15.7	16.6	**15.9**
3 service types	9.3	12.9	16.6	12.4	13.5	**11.8**
4 or more service types	12.2	31.3	37.7	26.8	20.8	**21.7**
Service Type received						
Domestic assistance	36.6	54.2	66.6	44.5	44.8	**45.0**
Social support	7.8	18.9	21.9	15.4	14.8	**13.1**
Nursing care	7.7	20.4	15.1	12.5	10.9	**10.8**
Allied health care	29.6	39.3	37.1	40.2	34.6	**34.4**
Personal care	16.1	39.6	42.1	32.7	28.4	**26.7**
Meals	7.1	17.9	25.4	19.4	15.1	**14.5**
Provision of goods & equipment	17.7	21.1	34.3	30.4	27.1	**24.8**
Transport services	14.2	26.6	35.7	24.4	20.1	**21.5**
Case management	6.0	14.7	16.4	9.9	8.6	**9.3**

NOTE: Includes only those episodes whose final accommodation is private residence and with known carer status and known services status

Appendix 1: Glossary

AN-SNAP class

The Australian National Sub-Acute and Non-Acute Patient Classification (AN-SNAP) is a casemix classification for sub-acute and non-acute care provided in a variety of treatment settings. Version 4, introduced in July 2016 and used in these reports, uses the episode's impairment, age, weighted FIM motor admission score and FIM cognition score to determine which of 50 inpatient (admitted overnight adult) rehabilitation classes the episode should be assigned to.

Between AN-SNAP V3 and V4 there have been some minor refinements to the positioning of age and FIM score splits, however the greatest change has been the introduction of impairment-specific weights to FIM item scores in the calculation of a motor score, the introduction of reconditioning only classes and the removal of orthopaedic replacement classes (now grouped with all other orthopaedic conditions). Refer Appendix 3 for the full list of classes and the section Impairment-specific weighted FIM scores below for more detail about how the items are weighted. For more information about AN-SNAP class V4 please refer to the AROC website.

AROC

The Australasian Rehabilitation Outcomes Centre (AROC) was established in 2002 and current membership encompasses close to 100% of all Australian and New Zealand rehabilitation facilities. Facilities routinely submit deidentified data to AROC for each rehabilitation episode, including information about demographics, process indicators and functional status.

Benchmark group

In Calendar Year 2015 new benchmark groups were introduced. With the exception of brain injury and spinal cord dysfunction an episode's benchmark group is determined by the country of the submitting facility and can be either Australia or New Zealand. For episodes recorded as brain injury or spinal cord dysfunction (or major multi trauma involving brain injury and/or spinal cord dysfunction) the benchmark group is determined by first admission episodes reported by all specialist (brain/spinal) units in both Australia and New Zealand, calculated separately for traumatic and non-traumatic episodes. The benchmark data set is all episodes during the reporting period in the AROC database.

Appendix 1: Glossary

Casemix-adjusted relative mean

A comparison of some statistics such as length of stay and FIM change is only possible if the groups being compared comprise similar episodes. The specific impairment, level of functional independence, age and other factors relating to the episode have an impact on these statistics. If, for example, your average length of stay were different from the benchmark group, we could not tell if your episodes really were different or if the difference was merely due to the unique casemix.

To overcome this difficulty, it is possible to statistically control for casemix. This is achieved by adjusting measures such as length of stay and FIM change so that the comparison is only made between similar types of episodes.

In this report we have calculated casemix-adjusted relative mean length of stay and casemix-adjusted relative mean FIM change for completed episodes. To do this, we needed to know the LOS (or FIM change) and AN-SNAP class for each episode as well as the mean LOS (or FIM change) for the benchmark group for each AN-SNAP class. We then calculated the difference between each episode LOS (or FIM change) and the mean LOS (or FIM change) of the appropriate AN-SNAP class. These differences were then averaged to produce the casemix-adjusted relative mean. This may be easier to understand as a set of two equations illustrated below.

For each episode calculate:

LOSdiff = episode's LOS – mean LOS appropriate AN-SNAP class.

Casemix-adjusted relative mean = Sum of **LOSdiff** for all episodes divided by **Number of episodes**

A casemix-adjusted relative mean length of stay of, say, -2 days would indicate that, on average, your facility has a LOS of 2 days less than similar episodes in the benchmark group. A casemix-adjusted relative mean FIM change of, say, 4 would indicate that, on average, your facility improved 4 FIM points more than similar episodes in the benchmark group. It is important to consider both of these statistics together. For example, your episodes may have stayed longer than similar episodes in the benchmark group, but they may also have achieved a greater functional improvement.

Complete/incomplete episode

An episode is considered "complete" for the purpose of calculating outcome statistics in this report if (A) the mode of episode end was either 1 (discharged to usual accommodation) or 2 (discharged to interim accommodation) AND total FIM score at episode end was greater than 18, or (B) the mode of episode end was 7 (change of care type within sub-acute/non-acute care) AND length of stay greater than 6 days.

Appendix 1: Glossary

Confidence interval for a mean

To decide if a difference between your facility's mean score and the benchmark group's mean is statistically significant, look at the two confidence intervals. If they overlap, the difference is not likely to be statistically significant. For example your facility's mean onset to first admission may be 16 days while the benchmark group's mean is 12 days. These values are certainly different, but the difference may not be statistically significant. If the 95% confidence interval of your data were (13 – 19) (i.e. 13 days to 19 days) and that of the benchmark group data set were (10.5 – 13.5) (i.e. 10.5 days to 13.5 days), the difference is not likely to be statistically significant as the two confidence intervals overlap. Note that this is a conservative comparison and is not as accurate as a formal statistical test.

Data Concatenation

Increasingly some jurisdictions have introduced business rules around data collection that have resulted in episodes of rehabilitation being ended and then re-commenced a few days later. AROC definitions would record these as one episode with the period in between defined as a suspension of rehabilitation. Such business rules result in two (or more) episodes of rehabilitation being reported to AROC when only one full episode should be reported.

Whilst this happens much more frequently in some impairment groups (e.g. spinal cord injury & brain injury) it does impact all impairments to some degree. Reporting of multiple episodes impacts outcomes analysis, resulting in shorter than real length of stays and reduced FIM change being reported.

Concatenated episodes will have a revised Length of stay and FIM change (start details will be taken from the identified primary episode; end details from the identified final episode), and will also have a revised number of suspensions (being the sum across all concatenated 'submitted episodes' plus the number of breaks between 'submitted episodes') and a revised number of suspension days (being the sum across all concatenated 'submitted episodes' plus the sum of all days between 'submitted episodes').

Submitted episodes to AROC are identified for concatenation based on the following rules:

- Subsequent episodes MUST have same impairment code and be from same reporting facility with same MRN and DOB.
- Leading episode must be discharged into the hospital system with following episode being admitted from hospital system.
- Number of days between episodes being 0-14 days for spinal and 0-7 days for all other impairments.

To make it easier for AROC to identify episodes that should be concatenated in January 2014 the data item Mode of Episode Start had an additional code set value added: **9 = recommenced rehabilitation episode following suspension**.

Appendix 1: Glossary

Data quality score

The data quality score is the average percent reported for all AROC data items (including impairment specific items where relevant) with the exception of those items that are optional. Path, facility code, facility name, MRN and episode end date are not included as these fields are used to extract the data for reporting.

Functional Independence Measure (FIM)

The Functional Independence Measure (FIM) is used as a tool to assess the functional independence of patients at episode start and end.

- The **FIM motor score** is the sum of the scores obtained for the first thirteen (13) items in the FIM instrument. A higher FIM motor score indicates a greater level of functional independence in motor skills.
- The **FIM cognition score** is the sum of the scores obtained for the final five (5) items in the FIM instrument. A higher FIM cognition score indicates better cognitive function.

FIM change

The change in functional status from the beginning to the end of the episode is measured by the change in FIM score. This is calculated as the FIM score at the end of the episode minus the FIM score at the start of the episode. In some instances the change in total FIM score (the sum of items 1 to 18) is calculated. In other cases either the change in FIM motor score (the sum of items 1 to 13) or the change in FIM cognition score (the sum of items 14 to 18) is calculated.

A higher FIM score corresponds to higher level of function while a lower FIM score represents less functional independence. This means that a positive value for the change in FIM score indicates functional improvement during the episode. A negative value for the change in FIM score indicates a decline in functional independence during the episode.

FIM efficiency

The FIM efficiency indicates the average FIM improvement per day. This statistic is calculated as the mean FIM change divided by the mean length of stay (LOS).

Appendix 1: Glossary

Impairment-specific weighted FIM motor scores

Impairment-specific weighted FIM motor scores are new to the inpatient (admitted overnight adult) rehabilitation AN-SNAP V4 classes. Weights reflect the **relative impact** of each item on the **cost** of caring for the rehabilitation patient. If an item has a weight of more than 1, it will have an impact on the cost of care that is more than average – a weight less than 1 implies the impact will be less than average. Within each impairment type, the weights are scaled to sum to 13 – thus both weighted and unweighted scores range from a minimum of 13 to a maximum of 91. Where impairments are grouped together in the classification, a single set of weights for that group has been derived. The exception is Major Multiple Trauma (MMT) where there were too few episodes to develop relative weights and so all weights were set to 1.

Interquartile range (IQR)

The middle 50% — between the 25% percentile and the 75% percentile.

Length of stay (LOS)

The length of stay (LOS) of an episode is the number of days on which care has been provided. It is calculated as the end date minus the start date, minus the number of leave days during the episode.

Mean

The mean, or average, is a measure of the "centre" of your data. It is calculated by adding all data values and dividing by the number of values. The mean can be used to calculate a total. For example, if the mean length of stay were 21 days for a group of 30 episodes, the total number of bed days could be calculated as 21 multiplied by 30.

Appendix 1: Glossary

Mean or median - which to use?

The mean and the median are both measures of the "centre" of your data. For data that are symmetric about the mean (e.g. normally distributed data), the mean and the median will be close to each other. However they may have very different values for some data sets.

As an example, consider length of stay. Typically, most episodes within a class will have roughly the same length of stay. However, there will be a few episodes that are longer than the others and a smaller number that are very long. These longer lengths of stay have the effect of increasing the mean length of stay, but have little or no effect on the median.

If you want to know how long episodes in this class "typically" stay, you will probably be interested in the median as this gives you the middle value - half the episodes are longer and half the episodes are shorter. If, however, your interest is in allocation of resources and you want to know how long episodes stay on average, or if you want to get an idea of the total number of days of care provided to episodes in this class, you will need to look at the mean. (The total days can be calculated by multiplying the mean with the number in the class).

Median

The median provides the middle value of your data – half the values lie above it and half the values lie below. For example, if your median length of stay were 20 days, half of your episodes would have stayed for 20 days or less, while the other half would have stayed 20 days or longer. Note that the median, unlike the mean, cannot be used to calculate the total number of bed days.

Appendix 1: Glossary

Relative Functional Gain (RFG) and Relative Functional Efficiency (RFE)

FIM change measures the absolute difference between admission FIM and discharge FIM scores, i.e. client 1 had a 10 point improvement (admission 46 - discharge 56) and client 2 also had a ten point improvement (admission 116 - discharge 126). FIM change does not take into account the proportion of FIM change possible, i.e. client 1 improved 10 points out of possible 80 (126-46) and client 2 improved 10 points out of a possible 10 (126-116). So not all patients that improve 10 FIM points are the same. This proportion of FIM change possible is known as the Relative Functional Gain (RFG) and tries to take into account the amount of FIM gain possible. RFG is calculated as follows:

- If actual FIM change > 0 [improved]
  - **(Discharge FIM - Admission FIM)/(126 - Admission FIM)**
    - e.g. (90 – 50)/(126-50) = 40/76 = 52.6%
- If actual FIM change < 0 [declined]
  - **(Discharge FIM - Admission FIM)/ (Admission FIM)**
    - e.g. (90 – 100)/100 = -10/100 = -10%
- If actual FIM change = 0 [no change]
  - 0%

FIM efficiency measures the absolute difference between admission FIM and discharge FIM scores per day, without taking into account the proportion of FIM change possible. The Relative Functional Gain per day is known as the Relative Functional Efficiency (RFE), and is calculated as the RFG divided by the length of stay (LOS).

Submitted versus reporting episodes

Submitted episodes are those submitted to AROC either via direct data entry or upload through AROC Online Services. These episodes have not been concatenated.

The reporting data used by AROC in this report is made up of concatenated episodes. For most episodes there is no difference between the submitted episode and the one used for reporting.

Appendix 1: Glossary

Valid FIM

For an episode to have a Valid FIM flag it must be a complete episode and each of the 18 items on admission and discharge must have been answered with a valid response of 1-7.

Valid LOS

For an episode to have a Valid LOS flag it must be a complete episode with a length of stay ranging between 1 and 500 days.

Version 4 data set

The version 4 (V4) AROC dataset was introduced on 1 July 2012. V4 is designed as a bank of data items, combinations of which are used to describe 6 possible pathways of care (see the AROC website for more information about the different pathways). NOTE: This report utilises only Pathway 3 data (inpatient direct care).

Appendix 2: AROC Impairment Codes

STROKE

Haemorrhagic

1.11 Left body involvement
1.12 Right body involvement
1.13 Bilateral involvement
1.14 No paresis
1.19 Other Orthopaedic fractures

Ischaemic

1.21 Left body involvement (right brain)
1.22 Right body involvement (left brain)
1.23 Bilateral involvement
1.24 No paresis
1.29 Other Orthopaedic fractures

BRAIN DYSFUNCTION

Non-traumatic

2.11 Sub-arachnoid haemorrhage
2.12 Anoxic brain damage
2.13 Other non-traumatic brain dysfunction

Traumatic

2.21 Open injury
2.22 Closed injury

NEUROLOGICAL CONDITIONS

3.1 Multiple Sclerosis
3.2 Parkinsonism
3.3 Polyneuropathy
3.4 Guillian-Barre
3.5 Cerebral palsy
3.8 Neuromuscular disorders
3.9 Other neurological conditions

SPINAL CORD DYSFUNCTION

Non traumatic spinal cord dysfunction

4.111 Paraplegia, incomplete
4.112 Paraplegia, complete
4.1211 Quadriplegia, incomplete C1-4
4.1212 Quadriplegia, incomplete C5-8
4.1221 Quadriplegia, complete C1-4
4.1222 Quadriplegia, complete C5-8
4.13 Other non-traumatic spinal cord dysfunction

Traumatic spinal cord dysfunction

4.211 Paraplegia, incomplete
4.212 Paraplegia, complete
4.2211 Quadriplegia, incomplete C1-4
4.2212 Quadriplegia, incomplete C5-8
4.2221 Quadriplegia, complete C1-4
4.2222 Quadriplegia, complete C5-8
4.23 Other traumatic spinal cord dysfunction

AMPUTATION OF LIMB

Not resulting from trauma

5.11 Single upper above elbow
5.12 Single upper below elbow
5.13 Single lower above knee (includes through knee)
5.14 Single lower below knee
5.15 Double lower above knee (includes through knee)
5.16 Double lower above/below knee
5.17 Double lower below knee
5.18 Partial foot (single or double)
5.19 Other amputation not from trauma

AMPUTATION OF LIMB

Resulting from trauma

5.21 Single upper above elbow
5.22 Single upper below elbow
5.23 Single lower above knee (includes through knee)
5.24 Single lower below knee
5.25 Double lower above knee (includes through knee)
5.26 Double lower above/below knee
5.27 Double lower below knee
5.28 Partial foot (single or double)
5.29 Other amputation from trauma

ARTHRITIS

6.1 Rheumatoid arthritis
6.2 Osteoarthritis
6.9 Other arthritis

PAIN SYNDROMES

7.1 Neck pain
7.2 Back Pain
7.3 Extremity pain
7.4 Headache (includes migraine)
7.5 Multi-site pain
7.9 Other pain (includes abdo/chest wall)

Appendix 2: AROC Impairment Codes

ORTHOPAEDIC CONDITIONS

Fractures (includes dislocation)

8.111 Fracture of hip, unilateral (incl. #NOF)
8.112 Fracture of hip, bilateral (incl. #NOF)
8.12 Fracture of shaft of femur
8.13 Fracture of pelvis
8.141 Fracture of knee
8.142 Fracture of lower leg, ankle, foot
8.15 Fracture of upper limb
8.16 Fracture of spine
8.17 Fracture of multiple sites
8.19 Other orthopaedic fracture

Post Orthopaedic Surgery

8.211 Unilateral hip replacement
8.212 Bilateral hip replacement
8.221 Unilateral knee replacement
8.222 Bilateral knee replacement
8.231 Knee and hip replacement, same side
8.232 Knee and hip replacement, diff sides
8.24 Shoulder replacement
8.25 Post spinal surgery
8.26 Other orthopaedic surgery

Soft tissue injury

8.3 Soft tissue injury

CARDIAC

9.1 Following recent onset of new cardiac impairment
9.2 Chronic cardiac insufficiency
9.3 Heart and heart/lung transplant

PULMONARY

10.1 Chronic obstructive pulmonary disease
10.2 Lung transplant
10.9 Other pulmonary

BURNS

11 Burns

CONGENITAL DEFORMITIES

12.1 Spina bifida
12.9 Other congenital deformity

OTHER DISABLING IMPAIRMENTS

13.1 Lymphoedema
13.3 Conversion disorder
13.9 Other disabling impairments that cannot be classified into a specific group

MAJOR MULTIPLE TRAUMA

14.1 Brain + spinal cord injury
14.2 Brain + multiple fracture/amputation
14.3 Spinal cord + multi fracture/amputation
14.9 Other multiple trauma

DEVELOPMENTAL DISABILITIES

15.1 Developmental disabilities (excludes cerebral palsy)

RE-CONDITIONING/RESTORATIVE

16.1 Re-conditioning following surgery
16.2 Reconditioning following medical illness
16.3 Cancer rehabilitation

Appendix 3: AN-SNAP V4 Overnight Rehabilitation Classes

Class	Description of AN- SNAP class
4AZ1	Weighted FIM motor score 13- 18, Brain, Spine, MMT, Age ≥ 49
4AZ2	Weighted FIM motor score 13- 18, Brain, Spine, MMT, Age ≤ 48
4AZ3	Weighted FIM motor score 13- 18, All other impairments, Age ≥ 65
4AZ4	Weighted FIM motor score 13- 18, All other impairments, Age ≤ 64
4AA1	Stroke, weighted FIM motor 51- 91, FIM cognition 29- 35
4AA2	Stroke, weighted FIM motor 51- 91, FIM cognition 19- 28
4AA3	Stroke, weighted FIM motor 51- 91, FIM cognition 5- 18
4AA4	Stroke, weighted FIM motor 36- 50, Age ≥ 68
4AA5	Stroke, weighted FIM motor 36- 50, Age ≤ 67
4AA6	Stroke, weighted FIM motor 19- 35, Age ≥ 68
4AA7	Stroke, weighted FIM motor 19- 35, Age ≤ 67
4AB1	Brain dysfunction, weighted FIM motor 71- 91, FIM cognition 26- 35
4AB2	Brain dysfunction, weighted FIM motor 71- 91, FIM cognition 5- 25
4AB3	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 26- 35
4AB4	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 17- 25
4AB5	Brain dysfunction, weighted FIM motor 41- 70, FIM cognition 5- 16
4AB6	Brain dysfunction, weighted FIM motor 29- 40
4AB7	Brain dysfunction, weighted FIM motor 19- 28
4AC1	Neurological conditions, weighted FIM motor 62- 91
4AC2	Neurological conditions, weighted FIM motor 43- 61
4AC3	Neurological conditions, weighted FIM motor 19- 42
4AD1	Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 42- 91
4AD2	Spinal cord dysfunction, Age ≥ 50, weighted FIM motor 19- 41
4AD3	Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 34- 91
4AD4	Spinal cord dysfunction, Age ≤ 49, weighted FIM motor 19- 33

Class	Description of AN- SNAP class
4AE1	Amputation of limb, Age ≥ 54, weighted FIM motor 68- 91
4AE2	Amputation of limb, Age ≥ 54, weighted FIM motor 31- 67
4AE3	Amputation of limb, Age ≥ 54, weighted FIM motor 19- 30
4AE4	Amputation of limb, Age ≤ 53, weighted FIM motor 19- 91
4AH1	Orthopaedic conditions, fractures, weighted FIM motor 49- 91, FIM cognition 33- 35
4AH2	Orthopaedic conditions, fractures, weighted FIM motor 49- 91, FIM cognition 5- 32
4AH3	Orthopaedic conditions, fractures, weighted FIM motor 38- 48
4AH4	Orthopaedic conditions, fractures, weighted FIM motor 19- 37
4A21	Orthopaedic conditions, all other, weighted FIM motor 68- 91
4A22	Orthopaedic conditions, all other, weighted FIM motor 50- 67
4A23	Orthopaedic conditions, all other, weighted FIM motor 19- 49
4A31	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 72- 91
4A32	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 55- 71
4A33	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 34- 54
4A34	Cardiac, Pain syndromes, Pulmonary, weighted FIM motor 19- 33
4AP1	Major Multiple Trauma, weighted FIM motor 19- 91
4AR1	Reconditioning, weighted FIM motor 67- 91
4AR2	Reconditioning, weighted FIM motor 50- 66, FIM cognition 26- 35
4AR3	Reconditioning, weighted FIM motor 50- 66, FIM cognition 5- 25
4AR4	Reconditioning, weighted FIM motor 34- 49, FIM cognition 31- 35
4AR5	Reconditioning, weighted FIM motor 34- 49, FIM cognition 5- 30
4AR6	Reconditioning, weighted FIM motor 19- 33
4A91	All other impairments, weighted FIM motor 55- 91
4A92	All other impairments, weighted FIM motor 33- 54
4A93	All other impairments, weighted FIM motor 19- 32
499A	Adult Overnight Rehabilitation - Ungroupable

Acknowledgements

- **AROC wish to acknowledge the valuable contributions made by:**
  - Members of the Management Advisory Group of the Australasian Rehabilitation Outcomes Centre
  - Members of the Scientific and Clinical Advisory Committee of the Australasian Rehabilitation Outcomes Centre
  - The many staff from the rehabilitation facilities who have spent a great deal of time and care to collect, collate and correct the data, without whose considerable effort these reports would not be possible.

- **Disclaimer**

AROC has made every effort to ensure that the data used in these reports are accurate. Data submitted to AROC are checked for anomalies and facilities are asked to re-submit data prior to the production of AROC reports. We have provided general guidelines on the interpretation of the information reported but would advise readers to use their professional judgement in considering all information contained in this report.

- **Suggested acknowledgement**

Anywhere Hospital AROC Impairment Specific Report on Orthopaedic Fractures (Inpatient - pathway 3), July 2018 – June 2019. Australasian Rehabilitation Outcomes Centre (2019).

AROC Contact Details

Australasian Rehabilitation Outcomes Centre
Australian Health Services Research Institute
iC Enterprise 1, Innovation Campus
University of Wollongong NSW 2522
Phone: +61 2 4221 4411
Email: aroc@uow.edu.au
Web: aroc.org.au